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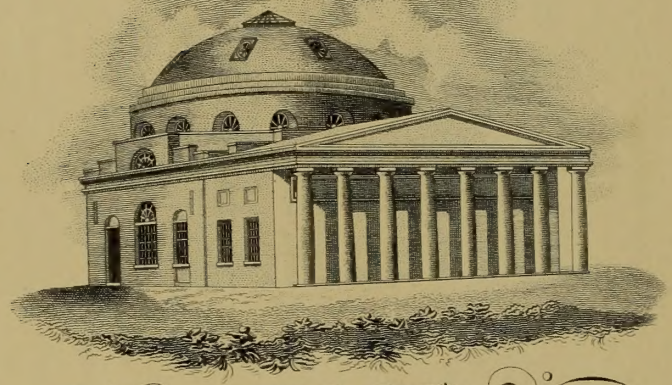

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

THESES

1884 (a)

Author	Title	Notes
Wilson, J. C.	Pathology and Therapeutics of Enteric Fever	
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Barton, W. H.	Diet	(no title page, missing pages)[1]
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Jordan, J. R.	Tobacco and Its Effects	

[1] Missing end pages. Final page and final author/title appear in 1884 (d), before Diphtheria (Morris).
[2] Title page on the back of final page.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

Author	Title	Notes
Winslow, C. C.	Remittent Fever	
Miller, Edward L.	Typhoid Fever	
Lecato, John T.	Diphtheria	
Duckett, B. Furman	Intermittent Fever	(no title page)

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1884 (a)

Wilson, J. C.	Pathology and Therapeutics of Enteric Fever	32p.
Randolph, ~~R.~~ Robert L.	The Blood	25p.
~~Anonymous~~ Barton, W. H.	Diet[1]	12p.
Wakelee, E. ~~H.~~ Herman	Methods and Value of Expert Evidence	20p.
Hodgdon, ~~A.~~ Alex L.	Relation of Electro-chemical States to Dynamical Conditions[2]	16p.
Gamble, ~~R.~~ Robert G.	~~The Medulla~~ A Short account of the medulla[3]	18p.
Etchison, ~~E.~~ Elisha H.	Pneumonia	14p.
Cronk, ~~E. L.~~ Edwin D.	Hemorrhage	23p.
Humrickhouse, ~~Geo.~~ George	Diphtheria	26p.
Hoover, C. S.	Alcoholism	24p.
Jordan, J. R.	Tobacco and Its Effects	54p.
Winslow, C. C.	Remittent Fever	15p,
Miller, ~~Ed.~~ Edward L.	Typhoid Fever	37p.
Lecato, ~~J.~~ John T.	Diphtheria	31p.
Duckett, B. ~~F.~~ Furman	Intermittent Fever	25p.

1 No title page. Missing end pages. Final page and final author/title page appear in 1884(d) "Diphtheria" (Morris).

2 The [illegible] chemical states [illegible] in organic bodies

3 Possibly missing pages

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Pathology and Therapeutics

of

Enteric Fever

J. C. Stilson

Big Run Pa

63

WM
18999

Pathology & Pneumonia of Enteric Fever.

In view of the fact that many of the British writers have adopted the term Enteric Fever as proposed by Prof. Geo. H. Ward many years since while most of our American authors adhere to the old ambiguous and indefinite term of Typhoid Fever, the author of this article has chosen the former term in preference to the latter, believing the force of habit which we recognize in our own experience ought not to perpetuate the ancient error. There can be no doubt at the present time that Enteric is the more correct of the two. Enteric Fever may

be designated as a miasmatic contagious disease. A miasmatic disease in the general acceptation of the term implies one in which the emanating effluvia or miasm from decomposing animal or vegetable matter is introduced into the system which undergoes development within the animal body and generates some form of disease. A contagious disease as commonly understood by the profession is one generated by the infectious contagium emanated from the diseased body in which it was engendered and having undergone further development or at least having maintained its already acquired state of development introduced into some healthy body sets up a disorder peculiar to itself or the diseased source from which it

body of animals is kept up by the [illegible] [illegible] of the [illegible] [illegible] of the blood in the oxygen of the air drawn into the lungs." Chemically speaking this is true but it does not embrace all the changes and factors attendant upon the production of heat. In studying the production of heat from the results of experiments in Physiology we are irresistably lead to the conclusion that a nervous factor is eminently associated with the formation of heat. So forcibly in this instance that Bernard's feels justified in speaking of "Calorific" and "Frigorific" nerves in complete analogy to vaso dilators and vaso constrictors. In experiments by Bernard upon dogs he ascertained that division of the cervical sympathetic gave

rise to and maintained a much higher temperature than that of the opposite side. Dalton affirms the increase of temperature to be due to an increased vascularity to parts and an increased amount of blood circulating in the vessels. A quotation from Bernard and Knoch found in Foster's Physiology page 613 asserts that the elevation of temperature remained after the increased vascularity disappeared showing that the former is not wholly dependent on the latter and that by stimulating the central end of a divided auricular nerve sufficiently intense to give rise to pain that this by reflex action through the intact cervical sympathetic gave rise to a marked refrigeration of the ear without any vascular change

Reference here made is to the Fourth Edition

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tie of all cicatricial tissue (Vz: Contraction.
A lack of harmony appears to exist among different writers as regards the healing of the ulcer. (Bartholow says, "The floor of the ulcer is soon covered by granulations and a gradual contraction taking place the ulcer is ultimately closed, a cicatrix resulting the site" (Prac. of Med p 672) Roberts says "healing is accomplished without any puckering contraction or constriction of the gut." (Prac. of Med page 140) The hyperaemia and congestion which marked the onset of the intestinal ulceration also to a greater or less extent affects the mesentery. The lymphatics in this region have become congested swollen and inflamed followed by softening and absorption of the products of inflammation and a return of the enlarged glands to their normal dimensions

First Edition.

The Spleen is subjected to similar changes in this disease.

Therapeutics.

Within the last decade during which time the different conditions in Pathology and their therapeutical indications have been subjected to a closer investigation of advanced medical science and the great and good revolutions which they have undergone Enteric fever with its conditions and indications has not been omitted. In fact the modern medical literature on the subject of fever indicates that no other disease has been more thoroughly subjected to the boiling crucible of experimental therapeutics. Grand and successful as many of these great changes have been the therapeutics of fever is yet imperfect and unceasing. But Materia Medica not only as an

empyrical study, but also as a rational science is rapidly on the advance and the day appears near in the future when the treatment of pyretic diseases will be reduced to successfully rational empyricism.

By taking a glance at the condition in which the therapeutics of fever existed some twenty years ago and with some authorities even at a more recent date than this we are caused to wonder that fever has not [illegible] [illegible] its victims [illegible] [illegible] [illegible] at the fever. Investigation has proven that the physician has now at his command antipyretic [illegible] with which he can almost abort the course of a continued fever or at least maintain it within limits that by itself is not imminently dangerous to life. — In commencing the

crease of bodily temperature. Of all medi-
cinal agents used for the reduction of tem-
perature by diminishing the production of
heat Quinine undoubtedly leads the list.
It acts in reducing temperature by its effect
on the migratory activity of the leucocytes
and by lessening the absorption of oxygen
by the tissues from the red blood corpus-
cles thereby decreasing oxidation. That it
diminishes oxidation of tissue is evidenced
by the fact that it diminishes the amount
of urea in health and in disease. One
authority states that a scruple of Qui-
nine lessened the amount of urea and
one half and there being no subsequent
increase in the secretion shows that its
formation is absolutely lessened. It has
the power of arresting the amoeboid move-

"[illegible] a natural [illegible] element [illegible] growth which growth or development must be attended with heat; and if Quinine will [illegible] the [illegible] of these white corpuscles as high authorities assert it will by depriving them of oxygen or otherwise, it will arrest the evolution of heat. Quinine is eliminated almost entirely by the kidneys and bowels. In Enteric Fever the quinine [illegible] [illegible] for after its administration which must be consumed in the blood." Different opinions are entertained by authorities as to its mode and quantity of administration. Those writers who advocate that it should never be given in doses larger than that of 10 grs. argue that larger doses than this have a marked depressant effect on the heart inducing failure of that organ. Prominent among the

[illegible] Vol. III. p. 685. [illegible]
[illegible] "Quinine is [illegible] the means of arresting
the rise of [illegible] into [illegible] in very high
degree of [illegible] measures in whom [illegible]
[illegible] indicated or no longer effectual. (Ziemssen's
Cyclopaedia Vol. [illegible] page 26). [illegible]
[illegible] is free from high medical authority
sufficient to [illegible] that anti-pyretic doses
of this drug have no injurious effect on the heart.
One should bear in mind that the greatest enemy
of the heart muscle is high temperature and
Quinine should be used before the febrile el-
ement has had time to produce its depressing
effect on the muscular system. — Another
valuable method of reducing fever is hydrotherapy.
Under this term may be included baths wet
packs sponging, and cold drinks all of which
lower temperature by abstraction and conduction

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and little [illegible] it is a [illegible] [illegible]
[illegible] of the heart while [illegible] [illegible] [illegible]
class it as a heart tonic. It increases
the vigor of the systole and prolongs the dias-
tole. It slows and at the same time strengthens
the cardiac pulsations. Aside from the
theory that it increases the vigor of the heart
by its stimulating effect on the Spinal acces-
sory nerve (which Flint has demonstrated
preside as the great inhibitory nerve of the heart)
thereby slowing the heart and that what is
[illegible] in the frequency of the beats is made
up in force, it also improves the nourishment
of the heart muscle itself by increasing the
quantity of blood circulating through the
coronary arteries. These arteries are filled
during diastole of the heart and by increas-
ing the vigor of the systole a greater quan

[illegible] of blood is thrown into the [illegible] when the aorta by virtue of its elasticity contracts upon its contents with greater force than when less vigorously distended a greater quantity of blood must of necessity be forced into the coronary arteries thereby improving the nutrition of the heart walls by increasing its blood supply. An apparent contradiction of his own statement is made by the last named Author in regard to the use of Digitalis in this disease. In his treatise on Mat. Med. page 300 he condemns its use as an antipyretic in this form of fever while in his work on Practice of Med. page 702 it is strongly recommended as part of the treatment of this disease. Digitalis acts upon the peripheral blood vessels and causes them to contract lessening the amount of

blood circulating to the surface of the body. This peripheral contraction throws an increased amount of labor on the heart in endeavoring to propel the blood through the system and if the heart be weakened by a continued fever or any form of degeneration this condition of the circulation should certainly not be induced and it appears to the writer that its administration in the later stages of enteric fever would be a continued menace to life. — If at any stage of the disease there be symptoms of heart failure Ammonia Carbonate and alcoholic stimulants must be freely but judiciously administered.

To much space and time would be consumed to consider all probable complications and other remedies that have been

and in the treatment of this disease, hence they will be passed over in silence.
In the general management of the disease alimentation is of paramount importance. It should be nutritious and unirritating to the Stomach and bowels and should consist of nourishing liquids mainly. Milk contains all the proximate principles essential to the growth and development of the body, is comparatively easy of digestion, and as a rule agreeable to the stomach. It may be given "Straight" or in the form of custards Milk punch &c &c frequently and in liberal quantities. In the advanced stages of the fever in old persons and in those addicted to the use of alcoholic stimulants Whiskey or Brandy may be added and carefully administered

through the critically low periods of the disease. Beef Tea is an excellent article of diet.

Nutrition should be kept up from the very onset of the disease always remembering that a fever cannot be starved out of a patient and that alimentation should not be stinted until the vital forces are prostrated and then depend wholly on artificial stimuli to bridge over a critical period.

The closest attention should be given to the room of the patient occupies. It should be kept sweepingly clean air and sunlight freely admitted and the dejections at once disinfected and removed. A number of teachers contend that the prevalence of Enteric Fever may be confined to a single case by giving attention to the excretions while under similar conditions of this be neglected it would run

the course of an epidemic. As a preventative then every time the patient fulles or purges it should be immediately disinfected with a strong solution of Sulphate of Iron or Chloride of Zinc and to obviate all further risk or danger of propagation the dejections should be buried underground. The clothing of the patient and bed when removed should be immersed in boiling water containing Chloride of Zinc.

J. C. Wilson,
Big Run,
Jefferson Co.,
Penna.

material and convey from
the tissues not less than three
thousand pounds weight of
waste. At every moment of
our lives there is nearly the
pounds of this fluid pushing
in one continuous throbbing
stream from the heart through
the great arteries which branch
and branch like a tree, the
vessels becoming smaller and
smaller as they subdivide, till
they are invisible to the naked
eye and then they are called
Capillaries = hair-like vessels although they are
no more to be compared in
calibre with hairs than hair

blood-corpuscles was a man
named Swammerdam in 1658,
but his observations unfortunately
for him were not given to
the public in print, and the
credit of the discovery went to
Malpighi in the year 1661.
The structure of these bodies is
difficult of study. Some said that
these red corpuscles had a nucleus,
such were the claims many
decades ago, but now it is
an easily made conclusion that
that they possess no such
spot or nucleus. They are
very numerous and are said to
number 5 000 000 to a cubic

[illegible] to [illegible] [illegible]
it is this substance which has
such a remarkable affinity
for oxygen & upon it depends
the principles of respiration.
These red corpuscles are said to
be produced most extensively
in the spleen and liver and
even in the red marrow of bones.
It is these red corpuscles which
give the red appearance to
blood. Besides these red corpus-
cles there are other [illegible] in
the blood known as the
colourless or white corpuscles.
These are much larger than
the red & present the appearance

ceaseless motion they are frequently spoken of as the [illegible] corpuscles. The chief manufactories of these white corpuscles are the spleen, lymphatics, adenoid tissue and also the red marrow of bones.

Let us now turn from the floating solids of the blood to the [illegible] in which they float from the cells to the [illegible]. As the blood circulates in the vessels we see that there is nothing solid in it but the corpuscles; yet no sooner does it pour from the vessels than

part of the liquid itself is converted into a trembling jelly, from which a yellow fluid slowly separates. The jelly-like mass has many of the red-corpuscles imbedded in it, and is called the clot; the yellow fluid is called the serum; the whole process is called the coagulation. The general phenomenon was known to the ancients indeed, it could not have escaped observation, but we must descend as far down as the seventeenth century before meeting with a physiologist who has [illegible] this [illegible] [illegible];

blood coagulation and say
that is occasioned by the
interaction of three substances
Fibrinogen, Fibrinoplastin and
fibrin ferment. The question
may arise, why does not the
blood coagulate in the vessels
seeing how rapidly it coagu-
lates out of them. The answer
to this is that there is a cer-
tain relation existing between
the vessels and the contained
blood and as long as this
relation is perfectly preserved the blood
remains fluid but when this
relation is disturbed as by an
inflammatory condition of

the coats of the vessels - coagulation will ensue [illegible] giving rise [illegible] known as a thrombus.
The fluid portion of blood or serum is really the nutritious part of the blood containing all the albumen and sodium salts in contradistinction to the corpuscles which contain no albumen and only the potash salts. Urea, sugar & creatin also exist largely in the serum.
The corpuscles contain the globulin and haematin.
Granting however that chemistry had succeeded in making

in different individuals, from 1.4 to 3.3 in 1000. The blood-cells vary with the varying health. The albumen fluctuates from 60 to 70 parts in 1000, the proportion being greater during digestion. Such are the chief points ascertained respecting the blood in general. We must now call attention to the different kinds of blood in different parts of the circulation; for although we speak of "the blood" as if it were always one and the same thing, it is in truth a system of various fluids a confluence of streams, each more or less

[illegible]

[illegible] an exchange takes place, no oxygen will be liberated. The carbonic acid is [illegible] the [illegible] of the vital activity of the tissues and as such is taken up by the blood in exchange for its oxygen.

Such is the wondrous blood [illegible]

foreign substance. According to
see it rigorously [illegible]
them, shut up in a system
of closed vessels; but as it rushes
along these vessels certain of
its elements ooze through the
delicate walls of the vessels and
furnish a plasma from which
the tissues are elaborated. In
exchange certain products of
waste are taken up by the
blood, and carried to the organs
of excretion. An image may
render the process memorable.
The body is like a city inter-
sected by a vast network of
canals such as Venice; these

canals are laden with barges which carry to each house the meat, vegetables, & groceries needful for daily use; and while the food is then presented at each door the canal receives all the sewage of the houses. One house will take one kind of meat, and another house another kind, while a third will let the meat pass and take only vegetables. But as the original stock of food was limited, it is obvious that the [illegible] of each house necessarily affect the [illegible] of the others. This is what occurs in —

Nutrition; the muscles demand one set of principles, the nerves a second, the bones a third, and each will draw from the blood those which it needs allowing the others for which it has no need to pass on.

Does not this throw a new light upon the blood? Can we not see now that blood is an organic structure incessantly passing through changes which are the conditions of all development and activity. The food and drink which we take become subjected to a complicated series of digestive processes. The liquid

X Fe Ae

The functions of life in every organized body whether it belong to the vegetable or animal kingdom can only be sustained by a regular and systematic supply of [illegible]

[illegible] of the waste or rather [illegible] by the [illegible] vital action of the [illegible] of which the [illegible] consists, and therefore for [illegible] loss [illegible] new matter [illegible] taken [illegible] [illegible]

For the reception of food [illegible] find every animal furnished [illegible] [illegible] canal [illegible] [illegible] to the [illegible] of the [illegible] [illegible] The very essence of digestion consists in absorption from the canal communicating with the external air into a system of closed tubes that contain the nutritive fluid.

Before this absorption can take place there must be a solution by the aid of muscles and nerves, and then there must be a conversion of the substances received into a like nature with blood.

There must ever be a due regard to the condition and supply of the alimentary organs as one of the most effectual means of preventing as well as remedying disease. The digestive tract all the more demands attention because it has not the same advantage as the respiratory apparatus and other parts of being double. Man has two lungs, two kidneys, two hemispheres to the brain, two sides to his body generally, but only one stomach and one intestinal canal, so there is less to the evil effects of disease. We are told that the powerful influence, which a derangement of any part has over the whole tract, is even over the whole body, is replaced by its singleness.

From anatomy we learn that [illegible]
[illegible]
that is not [illegible]
[illegible]
hence there can be no other
organ, which, being disordered
[illegible]
of its disorder or addition [illegible]
[illegible]
[illegible]
[illegible]
dyspepsia in its literal sense
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
From observations during and
after famines when people are
[illegible]
food to the vilest and
filthiest, the effects of such a
[illegible]
[illegible]
[illegible]
[illegible]
horrid diet, but also in consequence
of [illegible]

Again this fearful malady is common among those who prefer "living to eat" instead of "eating to live"; and, if we observe the various complexion and wasted features of those whose satiated appetite urges on to rich condiments and spirits to produce an inclination to eat and to help the stomach to its offices of digestion, we would proclaim the truth of the old adage "Plures crapula quam gladius". It has been observed by a physician in one of the large hospitals in England that the poor too have a tendency to luxurise whenever an opportunity of obtaining them occurs. He states that in distributing charity to the most very they will as a rule choose those things that are apt to be most pleasing to the palate in preference to what are likely to render most service to the system, that the old smoker or chewer of tobacco has expressed a desire for his favorite weed rather than help his stomach

earlier and even snatches the
medicine that
of an attendant. L
constitution recover itself, and

many are the odds that all obstacles which stand between his appetite and its indulgence will be removed and the rest is only a repetition of the same old story. Thus dyspeptics allow themselves to become thoroughly cured, or, once having gotten well, seldom grant themselves a long enjoyment of this happy condition.

A healthy man at a meal makes allowance for the future rather than seeks only to satisfy present hunger, that is he more than gratifies his wants a present in order not to have to eat again inconveniently soon. This overloading on the part of the dyspeptic must be shunned and for feeling of repletion, when at the table, must be [illegible] to him of the arrival of his "stopping time".

There has been a vast amount of discussion as to the proportion of food, as derived from the two kingdoms of nature, the

vegetable and animals which a man ought to partake of. Man's stomach or receptacle, on comparison with that of an herbivorous animal on the one hand and a carnivorous on the other, will appear at once to be suited to the assimilation of both vegetables and flesh. A man's teeth, say one, show that his diet ought to consist of both kinds of food and, judging from the proportion of the different kinds of teeth, should be in the relation of twelve to twenty in favor of the vegetables. But in deciding this point, there are many things to be considered, such as: health, age, climate, exercise &c.

Though no absolute rule as to the proportion of the two can be given, still, while taking into consideration whatever idiosyncrasies, seasons &c. let us look somewhat at the effects of the animal as compared with the vegetable diet.

At first thought it would be imagined that the former kind of sustenance, being similar to the persons own flesh and hence requiring little more than division and reception would have far less effect in bringing about the degree of excitement and heat that attends the digestion of a meal than the latter, which has to undergo a very complicated course of decomposition and recomposition before being assimilated to the body. But the reverse is the case.

In selecting the one in preference to the other there must be a due regard to the amount of bodily exertion and therefore waste the individual undergoes remembering that the animal diet on coming in contact with the nerves exerts an immediate stimulating effect upon them, causing more rapid action and formation of heat

and at the same time supplying a larger proportion of that principle, which is essentially nutritive. Upon persons of sedentary habits too free a use of animal diet, from the excess of nutriment thereby occasioned, may at length even bring about disease. While this is proved to be true in the case of old persons and inactive adults, the excess from a generous diet of animal food is in the young consumed in the development of the body.

It is a curious fact that animal matter seems to supply the aliment of almost every animal in the first stage of life; for even the granivorous birds are for several days after being hatched, nourished by the yolk of the egg.

It would not do for us, living in a climate such as this, to employ an animal diet exclusively. For this diet alone is too highly stimulant. We

live too fast and disease necessarily follows.

Of course the above is not meant to deny that the exclusive use of flesh for a time, when the system needs just such stimulation, is quite as advantageous, if properly applied as many powerful remedies are.

An exclusive use of vegetable food, on the other hand, cannot produce sufficient nourishment and energy to maintain the exertions and activity for which Americans are famed. Yet the vegetable seems far less injurious to an inactive or sedentary life than an animal diet, if one is to be used to the partial (it must not be complete) exclusion of the other.

The physicians of the past ages used to hold many singular and opposing opinions on the subject of what aliments ought or ought not to be used for the preservation of health

or the cure of disease.

At this day, however, the discovery of chemical agents of which the Pharmacopoea could not formerly boast, has induced physicians to depend rather upon these remedies for the cure of disease, than upon a modified plan of diet alone.

What we take daily by pounds must not be, at least, as important as what we take seldom and only by grains or teaspoonfuls.

Artificial associations in many instances have so wrought upon our appetites, that they are far from expressing the true wants of our systems.

Tis said that man has no natural food, but that by the sweat of his brow he is to render such things as nature provides, suitable for his sustenance by the art of cultivation. Our rice, wheat &c have been brought to their present degree of excellence by

the art of agriculture. For instance take the potato which was originally a small and bitter root growing in Chile and elsewhere and see how it has been raised to such a condition as to form almost the only food of thousands of people at this day. But it is not our purpose to trace the history of and compare the substances of the Materia Alimentaria at present.

Experience has been and must ever be the Great Teacher.

It is experience and often dearly bought experience that teaches the old nurse that certain mixtures produce injurious compounds after reaching the stomach, even though the chemist may have failed to explain the nature of such formations.

Yet the human being with his powers of reasoning can by an application of the principles of Physiology and Chemistry

Methods and Value of Expert Evidence.

A Thesis.

By

E. H. Wakelee.

Ego te scito; ne spere scandere Deum;

Nam mediatio genti humanae commoda homo, est.

The Evidence of Medical Experts in cases of Lunatics inquirendo; with some remarks upon its method and value.

The rapidly increasing number of lunatics in this country, the prevalence of crime, and the frequent calls upon physicians to testify for or against the accused parties in trials involving the questions of alleged crime and lunacy invest this subject with interest to the medical student, and make it a matter of serious and practical importance to the practitioner of medicine who is required to give evidence in a court of law.

Upon the testimony of a called medical expert not only the life

or deeds of these persons charged with crime often hangs, but the fair and good repute of most distinguished feminine reputation upon it.

It is not singular, therefore, that, in an issue of such vital importance, the inquiry should arise in the mind of the public, but should also present itself to the curiosity of the medical student — how reliable is expert evidence in cases of alleged insanity when honestly and intelligently given, and is it customary for such experts to engage their services for good record to — to either side in a criminal trial without knowing the merits of the case, and regardless of the injustice their testimony may inflict upon the unfortunate and possibly innocent victim?

It is claimed that it is not uncommon for both prosecution and defence to engage their expert witnesses long in advance of the trial in court, such witnesses having more than the accused whose sanity is questioned, and knowing absolutely nothing of his mental condition.

It is also claimed that after such employment these witnesses prepare themselves with special reference to swearing their respective points and always upon the trial of the cause in court, and that the sharpest cross-examination fails to elicit anything in favor of the opposing party.

Such testimony may be learned and able, a lingo of terms and a skillful handling of definitions may lose its great weight with an

inexperienced jury. — but surely, no means, same or otherwise, should be convicted or acquitted on evidence prepared and shaped by previous contract — nor is it possible such testimony will subserve the ends of justice, or redound to the credit of the proffession whose members offer it.

Should it be said that this is an improbable and untrue assumption as to the manner in which such evidence is sometimes obtained, I think it will not be difficult to point out instances where the expert witnesses have promptly undertaken and agreed to furnish the desired proof upon the "Ex parte" and biased statements of their employers.*

* Our esteemed Lecturer on Chemistry said to us when he had demonstrated to us Marsh's beautiful test for arsenic poisoning, "for all this test is so conclusive, it is easy for the expert

In the ordinary course of such trials the experts employed to convict rarely see the accused party until they meet him in the court room. Upon hypothetical, unfair, and imperfect statements they have de=cided and promised in advance, to swear that the alleged criminal is not insane, and the evidence of a dozen other equally intelligent experts who are well acquainted with him, to the contrary, has no effect upon their preconceived opinion unless it be to strengthen their faith in their own preconceived judgement.

chemist, in a court of law to so confuse an average jury by casting shades of doubt upon the test that they think it comparatively worthless." What I conceive to be true in cases of de lunatico inquirendo, might be true in cases where there is a far better chance for truth and justice to conquer.

With the same facility the friends of the "prisoner" are able to procure undoubting testimony that he is as "mad as a March hare" and as guiltless of voluntary crime as a disembodied saint.

To the student of medicine the little respect shown by opposing experts for each others opinions uttered upon their oaths, would seem enough to stagger the confidence of an intelligent and thoughtful juror in the trustworthiness of any of them. If we turn from this aspect of the subject, and regard the medical witness as an unprejudiced examiner of the culprits condition, instead of a hired helper of the attorneys, we are still confronted by methods that impair our confidence in the soundness of his declarations.

Whatever may be our theory as to

the pathology of insanity, and however firm our belief that it is essentially and entirely a physical malady it must be acknowledged, it seems to me, that an intelligent and reliable opinion as to any given case can only be formed by an accurate and complete knowledge of the manners, habits, acts and entire deportment of the patient, rather than by recourse to the ordinary diagnostic means such as an examination of the tongue pulse &c. &c. usually employed in detecting diseases that are attended by only physical derangement.

If we admit as most alienists, I believe now claim, that the mind of a lunatic is as lucid and serene as that of a philosopher, save the disturbance occasioned by bodily or

material ailment? that the mind is like a clear and perfect light shining through an obscure medium; or if as others assert there is no mind at all except the force or product of nervous action, by what known physical condition or set of physical symptoms is the expert alienist to declare an individual insane? — Are such experts able to point out or describe certain physical conditions, or a pathological state that unfailingly, or with even a reasonable probability indicates incipient or established lunacy? — It may be said certain physical signs and indications are always present in certain forms of insanity (which it seems to me would be a total assertion.) But will the most learned and experienced alienist

assert that like pathological symptoms are not frequently manifest in persons whose sanity is unquestioned.[8]—

A well known Doctor of Laws in the State of New York who is at the head of a large Asylum for the insane, in a widely circulated article, declares, "that if a single case of insanity can be shown to come on as the result of well recognized bodily disease, the mental disturbance disappears pari-passu with the physical restoration" the proposition that insanity is a physical disorder is fully established.[8]

The same man might also say that if a single case of Rheumatism can be shown to depend upon too much or too little acid in the human system, therefore too much or too little acid is the cause of all the

pains and aches which this disease has inflicted upon the human race.

Doubtless there are scores of patients in the institution over which the distinguished gentleman presides who can write as plausible sophistry every day in the year, and if nine times out of ten the same "well recognized" disease did not fail to occasion insanity or any of its symptoms, the force of his argument would be more apparent.

In any event the relations of the physical and mental forces seem to be at present too obscure and debatable to render this mode of reasoning conclusive. If it were possible to show that some lesion or disease of the brain or any other part of the human organism may be and often is the pathologic cause of insanity, and that

there are certain physical signs indicating the presence of such brain or disorder, then possibly the Medical Examiner and witness might arrive at a correct opinion as to the sanity and moral responsibility of his patient as readily as he would diagnose and determine the real condition of things in a case of pneumonia. But it is admitted even by those who hold that all insanity is attributable to physical derangement that there is no congruity or proportionate relation existing between the physical brain, symptoms and the mental phenomena. It often happens that great mental disturbance is associated with slight or imperceptible physical injury, and vice versa.

If this be true neither the

temperature of the patient, nor the condition of his pulse, nor the appearance of his eye, or tongue, nor the state of his skin, nor the character of the secretions nor excretions can in the present state of medical science, be accepted either separately or combined as conclusive evidence of his insanity.

In many obtuse cases of lunacy there is very slight variation from a normal standard in any of these organic expressions and I conclude that only by the aid of long and careful observation of or by an absolutely correct description of the patients habits, manners, appearance and mental characteristics can even a competent observer determine in many instances so important and obscure a matter.

That there have been great strides of progressive medical science during the past generation is, I think, recognized by the intelligent portion of community as well as by the profession itself; but whether the ambition of physicians reaches up to the high pronouncement of a science and the sacred claims of humanity or descends to the pursuit of "money making," and the mechanical performance of the practical duties of a business; must have much to do with the future character and [illegible] of the profession. It is the present custom in cases of alleged lunacy to call as expert witnesses men who have charge of lunatics or lunatic asylums to sustain the [illegible] and [illegible] of the attorneys employed by the prosecution and defense.

many of these experts are men who by good luck or family influence have been suddenly and unexpectedly elevated to their positions as superintendents of private or public institutions, and have only the blind guide of their own experience on which to rely. They are not faithful students nor profound thinkers, but only by virtue of their promotion and election, they at once develop into professional experts whose services are in frequent demand, and whose opinions the law compels the court to receive as knowledge and truth. That they, without a compass and depending solely upon their individual observation should waver or even fall when they come to wrestle with the problem of an abstract science and the sharp fire of a

cross examination is not singular, and that they should unintentionally fail to sustain the ends of justice and the credit of their profession is not more strange. No frequent visitor of our courts in cases of de lunatico inquirendo can have failed to observe the confused and conflicting testimony given by some of the most eminent and really able members of the profession, while it sometimes happens that the most acute and intelligent spectators are constrained to believe that some of the contradictory evidence is offered with the bias and perverseness that often characterizes the quarrels and lawsuits in a justice court, instead of being inspired by the high and just sentiments that should actuate the members of a

of a noble and proud profession.

As a remedy for some of the defects now charged to expert testimony might it not be well to give more thought and attention to the study of Psychology and Philosophy as an aid and preparation for a fuller and broader understanding and comprehension of a most essential branch of medical jurisprudence?

However much the opinion of physicians may differ as to any given case of alleged insanity it must be conceded that they will be to a considerable extent modified by its moral and mental manifestations; and while I would not dispute the advantages to be derived from the continued observations of the various types of insanity as they are

interested by the superintendent & an Insane Asylum, it still seems proper and necessary, especially if they are to appear as the principal expert witnesses in courts, that they should be something more than the keepers and attendants of those placed under their charge. In many of the schools of Europe psychology constitutes one of the separate branches of preparatory study, and it seems to be ~~an~~ important that more attention should be paid by the medical student to this branch of science both in his preliminary and regular course. That to a certain extent his studies should be philosophical as well as of the purely material science, that as in physiology he learns the normal conditions and healthy functions of the human body,

80 by the study of psychology he may learn the healthy operations of the mind. It also seems probable that a more satisfactory and equitable solution of these difficult questions might be obtained in a majority of the cases of supposed or alleged insanity if the matter was submitted to a commissio de lunatico inquirendo.

Such a commission should be composed of men distinguished for their medical attainments, not only, but who are also possessed of the highest character for candor and probity. This commission so far as practicable should be removed from all influences of a pecuniary nature, and during the discharge of its duties should act as a permanent board.

The decision of such a tribunal as to the responsibility of an alleged lunatic would, in my opinion, be much more acceptable to the parties interested in the case, and more satisfactory to the court and jury than are the contradictory and conflicting, and I fear sometimes purchased opinions of the so-called medical experts, many of whose incomes received for their pettifoggy testimony given in the courts exceed the sum of their salaries as managers of public institutions.

To prescribe the best methods for carrying out the suggestions for an addition to the course of study, and the establishment of the commission herein recommended would be a task beyond my ability

a perform, and the purpose of this paper to indicate.

If I succeed in directing more attention to these important subjects as I go out in the world a small part of my life work will have been accomplished.

Finis.

E. H. Hake Jr.
Medical Student.

Sept. 20, 1882.

(2)

(3)

Electrical properties - but why would it not be better to say that all electrical conditions are the same, only varying in their different intensities; in accordance with the condition which they are placed under (produced primarily through agencies evolved by themselves, as in certain isomeric compounds) Else how may we account for such wide differences as exist in isomeric compounds e.g. the volatile oils of turpentine, juniper, lemons etc. all of which have the composition $C_{10}H_{16}$, and besides these we have other differences to account for in metameric bodies. The electrical theory in connection with chemical combination, ought to be considered as having valid

grounds, from the results of many experiments performed with the battery e.g. take the analysis and synthesis of H_2O by means of the electric spark. We find that the brain substance is composed largely of CH, and fats containing Phosphorus, and we know that these are highly oxidizable - and if oxidizable - necessarily (according to our hypothesis) capable of generating an amount of electrical force in direct ratio to the amount of oxygen brought to them. We are also aware of the fact that Phosphoric acid* is produced during active mental labor - due to the oxidation of the phosphorus; and in this way we have a surplus of phosphates eliminated after a severe taxation of

is also found as one of the constituents of the brain during [illegible]

6

form different relations themselves after a repetition (of the impression) possibly many times. Making a quotation from Dr Maudsley's admirable work on the Physiology of mind p. 79 "We are content to believe that without oxidation we can no more have thought from brain than we can have flame from fuel" We know that if oxidation does not take place in the brain - the individual who is so unfortunate as to have this occur - is left during the time that the oxygen is withheld in a condition which we would designate as being minus the reasoning faculties. The action of phosphorus and C_2H_5HO are probably identical to a certain extent i.e. in causing

oxidation to take place in the brain substance and in this way promoting the rapid evolution of thought. We find in the normal state of the body that an impression is carried over a sensory nerve to the gray matter and registered (as it were) and another current (a responsive one you might say) produced and sent back over an efferent nerve to muscle and in this way we have coordination of movements. Now if the individual ingests a small quantity of stimuli he will have an increased blood supply sent to the centres and coordination of movements facilitated and ideas evolved more rapidly - being made manifest through the proper

action of the centres controlling the tongue; (or in other words fashioned into comprehensible language) in conjunction with the centres controlling the evolution of ideas. Now all of this we might understand to be due to increased oxidation of nerve tissue - consequently (on the electrical hypothesis) increased manifestation of electrical action - producing the apparent phenomena of exaltation and complete control over the faculties; but in tracing the course of the individual further on after the ingestion by him of a greater amount of stimuli - you will notice finally from over stimulation (just before direct sedation occurs) an incoordinate

of movements is made manifest — due to what? Why it seems that they would be due almost necessarily (as the increased coordination was due to increased oxidation — and consequently increased electrical action —) that this latter state should be due to diminished oxidation and diminished electrical action. According to Dr Hawksley impressions may take place in the brain without the presence of consciousness. We find idiots just before death — repeating long stories which had been impressed upon their brains — but which they were not conscious of at the time. Brain molecules (through

habit you might say) find it easy to assume certain magnetic or other relations - whatever they may be - toward one another, such relations being capable of bringing into play thoughts which had not been made manifest as such for years. It is evident that the registration of the same act (both the afferent impression and the efferent transmission) produces (if oft repeated) in the spinal cord an independent power (as it were) to recognize the same impressions when again made, and to bring about the same transmissions giving rise to the same definite results as the act of walking &c.;

this might be said by some to be a species of consciousness on the part of the spinal cord - but it is probably due to having placed the molecular portions into certain magnetic relations, so that they become so thoroughly fixed by habit that it is very easy for them to throw themselves into the same relation again upon like stimulation as they did primarily (upon the same form of impression) and give rise to the same results. The brain of the child as being created from a portion of two atoms (you might say) naturally is developed after the same pattern as that of its progenitors - sometimes the nerve currents tend to lead it in the footsteps of its mother, at

other times the vital power and characteristics as evinced by some distant ancestor are made manifest; but it is particularly unfortunate when the idiosyncrasies of both the parents agree as they are apt to be unduly developed in the offspring, and you may have a marked mania produced in this way. Children evidently have certain intrinsic properties in their brains and cords which must have been handed down from generation to generation - as a child will move its legs (when they are allowed to hang over the floor) - as in the act of walking - even if it be too young to walk. Muscle absorbs oxygen and gives off

(14)

theory of Berzelius we must acknowledge that the chemical action made manifest in the muscular tissue through the oxidation of the same is due to electrical action, and in reality we might then consider the body as one immense and intricate laboratory in which the inorganic material is (as it were) by a synthetical action altered into matter of a higher organic nature; and the organic broken down and changed from a material of great complexity to one of a less complex nature. Looking at it in this light and adopting the supposition, that all chemical action is made manifest through the opposite electrical

conditions of the elements - that so developed it we would find that electricity might well be considered as constituting the vital phenomena.

A Thesis bearing on,

The relation which

Electro-Chemical states bear to chemical

Conditions in organic bodies; or

Electricity considered as constituting

the phenomena of life.

Univ. of Maryland By,

A short account of the Medulla

University of Maryland

Feb-18-1884.

A. C. Grattan Gen[illegible]

F.R.A.

Little originality remains for the Student of medicine owing the numerous Journals &c.

In the following I do not claim any production of my own; but only a few points on the Anatomy & Physiology of the Fourth Ventricle & the Medulla Oblongata.

For the Anatomy I have made use of Dr. John Stage Davis' notes on Human Anatomy & of Dalton's Human Physiology for the Physiological part.

I shall first take up the Medulla Oblongata, then a few points on the Fourth Ven-

tricle - then I shall end with a few remarks on the Physiology of

Extending from the foramen magnum (upper border of the atlas) to the posterior lower border of the Pons Varolii the medulla oblongata is found - this establishing connection between the spinal marrow and the brain. It is conical in shape, the large end above and forward. It is about 1¼ inches in length. Passing down its centre in front is the anterior median fissure and similarly marking its centre posteriorly is the posterior median

these, though not entirely bisecting it seem to indicate its division into lateral symetrical halves. Each half is subdivided into four portions by three longitudinal grooves lying beside the anterior median fissure and separated by it, from its fellow, is the portion called the Corpus Pyrimidale. Just behind this, slightly bulging and separated from it by a fissure, is the 2nd portion, the Corpus Olivare - being visable for about 1/2 inch only. - Behind this last is a third portion, the Corpus Restiform and by another slight

groove from the forth portion, the posterior Pyramid, which lies behind the Corpus Restiform. And beside the posterior median fissure by which it is separated from its fellow. The two posterior pyramids are small but as they are followed up they suddenly dilate into a bulbous enlargement and again as suddenly decreasing, they separate as they ascend the one from the other and leave the angular interval called the Calamus Scriptorius (writer's pen). When the Medulla Oblongata reaches the pons Varolii it seems on superficial view to stop short; but

if the surface-fibres of the Pons, which are transverse in direction, be peeled off, it is seen that the Pons consists, in the centre, of vertical or longitudinal fibres, which are continuous with the fibres of the Medulla Oblongata below, and being gathered into two bands emerge from the anterior border of the Pons as the Crura Cerebri. Thus having given a gross discription of the anatomy of the Medulla, I shall in brief give a few points of the Fourth Ventricle.

The 4th Ventricle is situated beneath the Cerebellum or between it and the posterior aspect of the Medulla Oblongata. It is lozenge shaped (triangular in vertical section) and its boundaries are as follows. its floor is the Calamus Scriptorius of the Medulla Oblongata; its roof is formed by two elements, the lower posterior part is the Cerebellum, the front part is a thin membrane like layer called the valve of the brain, valve of Vieussens; each side is formed by a thick cord

passing from the Cerebellum to the Testes and called "Processus e Cerebello ad Testes."

The ventricle is closed behind and below by a fold of Pia-Mater: as it passes from the Medulla to the Cerebellum.

On the floor of the ventricle are seen two rounded oblong ridges called "Corpuli Testes" crossing these as they are passing from the posterior median fissure outward are the fibres of the origin of the Eight nerve (Auditory)- These fibres being white and running transversely are

called Lineae transversae.
On that portion of the
roof formed by the Cerebellum are four projections
one in front on the median
line called the Nodulus.
One just behind this called
the Uvula and one on each
side of the Uvula called
the Tonsil (amygdala)
Communicating with the
front upper extremity of the
ventricle is the Aqueduct
of Sylvius which passes
upwards beneath the Corpora
Quadrigemina, to the back part
of the Third Ventricle.

The Fourth Ventricle was called by the older Anatomists, the first since it is more easily reached and more constant in its existance in the different natural order. The gray matter of the Medulla recedes in a backward manner. The Post: horns of the cord spread out in a lateral manner & the ~~gray~~ remainder occupy the part between. Thus the gray substance lies on the posterior uncovered part of the medulla just beneath the roof of the Fourth Ventricle. It then extends forward towards the Aqueduct of Sylvius & on its course

gives origin to all the Cranial
nerves except the Olfactory & Optic.
The connections of the Medulla are
viz - Connected with the Cerebellum
by the Corpora restiformia, which
goes under the name of Processus
ad medullam oblongatam. To the
Cerebrum by the two Crura Cerebri
which forms the longitudinal fibres
of the pons Varolii & emerge
from its anterior border to reach
the Cerebrum -
Thus having compleated, as briefly
as possible, the gross anatomy
of the Medulla, we will now
turn to the Physiology - Getting our
data from Dalton's Human Physiology

No part of the brain has so marked Physiological properties as the Medulla - Its Posterior part being both sensitive and excitable. As it is the connecting link between the brain & the Spinal Column any lesion of it will cause loss of sensibility & voluntary motion in the lower extremity.

The reflex action of the Medulla is very distinct in its character. Its connection with the Respiratory functions is one of marked characteristic points. So long as the medulla is not injured life may continue with out the aid of the sustaining

portion of the brain — but death will take place instantaneously on its being injured. This is caused by the effect produced on the Respiration & Circulation. The circulation is stopped because the blood is not sufficiently aerated — & is thus a Secondary result. The Respiration is stopped because the Respiratory Centre is interfered with.

As respiration is performed by the actions of different muscles, and as these muscles are furnished with nerves that have origin at diff. points — so the injury of these different nerves

or their points of origin will have different effects according to the part injured. Thus the respiratory muscles are arrested in their action by section of the cord about the 3rd Cervical vertebra. Still respiration is kept up by the glottis & inferior animals by the nostrils whose nervous influence comes from another quarter. That is from a certain point in the Medulla. Hence we see that a cut in the cord at the third Cervical vertebra will cause paralysis of the Respiratory muscles of the chest with out interfering with

the action of the glottis or nostril-

Flourens has come very near the exact centre of Respiration- He made transverse [illegible] of the Medulla & found that just behind the [illegible] the pneumogastric nerve was the true [illegible] of respiration. By injuring this point all respiratory movements were [illegible] at once. This point is about [illegible] upper part of the decussations of the anterior pyramids- or lower part of the olivary [illegible] -

The movements of respiration [illegible]

are involuntary and are produced by nervous stimulus derived from the respiratory centre of the medulla - [illegible] not conscious of its going on, but is by any voluntary effort we should arrest it - an internal stimulus [illegible] acts on [illegible] tre & make it impertive that we should remove the obstacle to respiration -

This action of the medulla is Reflex - The oxygen of the blood is consumed in the tissues & the carbonic acid gas accumulates in the blood - this blood now supplying the medulla

causes an action to be set up
which in turn causes respiratory
muscles to be brought into play -
There are two proofs of the action
being Reflex - The sudden ap-
plication of any external stim-
ulus as a dash of cold water &c
cause a voluntary respiratory
movement & secondly - section
of the pneumogastric nerve will
cause diminution of the respi-
ratory movements - Hence ~~that~~ we
may suppose that the most
effective stimulus to the respi-
ratory centre is derived from
the lungs through the
pneumogastric nerve.

Deglutition is also governed by the medulla - Food put on the back of the tongue is no longer under the control of our will but by its presence it acts on the nerves & they in turn transmit the stimulus to the medulla & by Reflex action the muscles of the pharynx & are thrown into action. -

The medulla is also connected with Phonation which is carried on by Reflex action.

Thus we see that the medulla is the seat of such reflex actions as are necessary for life as the movements of

respiration & Deglutition
is governed by it - It also has
control of those muscles by
which phonation is accomplished
thus enabling man to communicate
his thoughts to his fellow men.
The independent centres of the
medulla are.

1° Respiratory
2° Vaso motor centre
3° Diabetic -
4° Cardio-Inhibitory
5° Influencing the - Secretion of Saliva -
6° " " " Pancreatic "
7° Phonation
8° Articulation
9° Deglutition
10° Centre for Vomiting -

Pneumonia

Syn.— Pneumonitis.— Peri-pneumonia.— Pulmonitis.

Pneumonia is an inflamitory condition of the parenchyma or substance of the organs of respiration.—

Varieties.— This disease is for the sake of convenience and also for the mutual benefit of both practitioner and patient divided into three forms: Viz., Lobular, single and double. Lobular, when isolated lobules are affected, more or less in number in both lungs: Single, when one entire lung is diseased: Double when both organs

are in a state of hyperae-
-mia.

Causation.— It may be idio-
-pathic, traumatic or tur-
-berculous. It is considered
idiopathic when this dis-
-ease is produced by the vicis-
itudes of the weather; trau-
matic, when the affected or-
gans have been subjected
to some mechanical violence;
tuberculous when it is con-
comitant of phthisis. This
disease is still further divided
into acute, chronic and infan-
-tile. I propose to deal here
with the acute form.

Symptoms.— The first stage
is that of congestion or en-
gorgement, and the commence-

-ment of exudation.

Generally after exposure, this disease is ushered in by a chill, accompained by rigors, which are specially followed by a pain in the thorax. This pain is generally acute, though sometimes obtuse and occasionally it is entirely wanting. We generally have moderate dullness of resonance on percussion over the affected lung and on auscultation, after the first day or two, the fine crepitant rale. The pulse is often accelerated and full, however it is in accordance with the extent of the local mischief. The cough and dyspnoea

are very annoying and exists
the disease. The cough al-
ways aggravates the pain.
Dyspnoea and expectoration
are both difficult and pain-
ful for the first three days,
when, if the disease passes
into resolution, the above
named processes are ameliora-
ted. The temperature of the
body is increased above the
normal heat. If a lung
is examined in the con-
gestive stage of pneumonia
its color is deep red and
the pressure of fingers ~~up~~-
leaves an indentation
upon its surface and the
crepitation is not as great
as in health.

The pacific gravity is somewhat impaired, but it still floats in water.

When the inertayture of the affected portion of the lung is severed in the staga of congestion, a bloody, frothy, turbid serum copiously exudes. If the disease is not timely arrested it passes into the second staga, or staga of red softening or exudation and red hepatigation.

Second Staga. — This staga is characterized by a deep red, or reddish brown, decided dullenes on percussion, no rale, but instead, bronchial respiration and bronchophony, with increased

vocal fremitis,

When the lung is cut into, it bears a striking resemblance to liver; and on this account is said to be hepatized. Should the lung be pressed between the fingers at this time it would exude a reddish fluid, which is thicker, less frothy, and in less amount than that observed under similar circumstances in the congestive stage.

The lung not collapse upon exposure to the atmosphere, as in the healthy state.

Third Stage. — In this stage there are two conditions, one of which, and infinitely

the most common, is that which we term gray hepatization or gray softening, and the other is abscess. In the former the lung is compact and dense as in the red hepatization, but instead of the dark red color, presents within and externally a yellowish opaque, purulent fluid, sometimes tinged with blood. A very slight violence in handling, occasionally produces a cavity in its substance which gradually fills with pus, and may be easily mistaken an abscess.

The second condition above alluded to is exceedingly rare in adults.

Complications. — The only affections with which pneumonia is likely to be complicated with, are capillary bronchitis, pleurisy and phthisis,

Terminations. — Death scarcely ever occurs in the first stage of pneumonia in uncomplicated cases; but occasionally takes place in the second stage from asphyxia.

If our patient be vigorous enough not to be overcome by the disease until it reaches the third stage, he or she, which ever it may be, then dies from exhaustion,

Diagnosis. — The diseases with which pneumonia is liable to be confounded, are

bronchitis, pleurisy, and occa-
-sionally phthisis. From
bronchitis this disease is
diagnosed by the advantage
of auscultation and percussion
by the practice of which we
detect dullness, rale, bron-
chophony and bronchial respir-
ation. It is discriminated
from pleurisy by the crepitant
rale, rusty sputa and absence
of the sharp pleuritic pain.
Phthisis is very insidious in its
progress and is not accompanied
by the characteristic crepita-
tion and sputa.
Prognosis.— The prognosis
of double pneumonia is
unfavorable at all periods
of life, though recoveries

quite often occur in this variety. Acute infantile pneumonia or pneumonia of one lung in a vigorous, healthy individual with skillful treatment and proper nursing, if all other circumstances are auspicious, recovery may be expected.

Treatment. — The treatment of each stage in pneumonia furnishes different therapeutical indications, and each stage is to be considered separately. The question whether the disease may be arrested, relates to this stage. Measures which are considered as abortive are bloodletting, cathartics, &

other remedies entering into the so called antiphlogistic method of treatment.

As regards bloodletting I think it admissible in certain cases as a palliative and to some extent, a curative measure. The circumstances which permit its employment are high febrile movement, increased power of the heart's action, patient somewhat plethoric and of a robust constitution. In cases however in which bloodletting would be admissible provided the same ends could be reached by saline purgatives and sedative remedies I would prefer the latter

Opium may be advantageously given in the first stage in doses sufficient to relieve the pain and tranquilize the system. Dry cups, warm fomentations and soothing applications to the chest will meet the indications pertaining to the first stage.

Second Stage. The treatment in the second stage has reference to the promotion of resolution, palliation of symptoms and supporting the power of the system. Depletion by means of salines now is not admissible. The tincture of Iodine applied to the affected side is frequently employed, and found to be

very beneficial in this stage.
I think it would be well
to have the chest covered
with an oiled silk jacket.
If pain and soreness con-
tinues I would then try
the use of stupes with
some stimulating liquid, as
the Spirit of Turpentine.
The supporting treatment em-
-braces tonic remedies, alco-
-holic stimulants, and nu-
-tritious diet. As regards
alcoholic stimulants they
are indicated to an extent
to commensurate with the
dangers from failure of the
vital power. Stimulating
expectorants may be used.
Aromatic spirits of Ammonia

and squills in combination are said to be good for this. Mercury may be used in this stage if indicated, also opium is a most valuable remedy in this stage as in the first.

Fly blister or cups may be applied to the seat of pain. In every consideration pay good attention to hygiene.

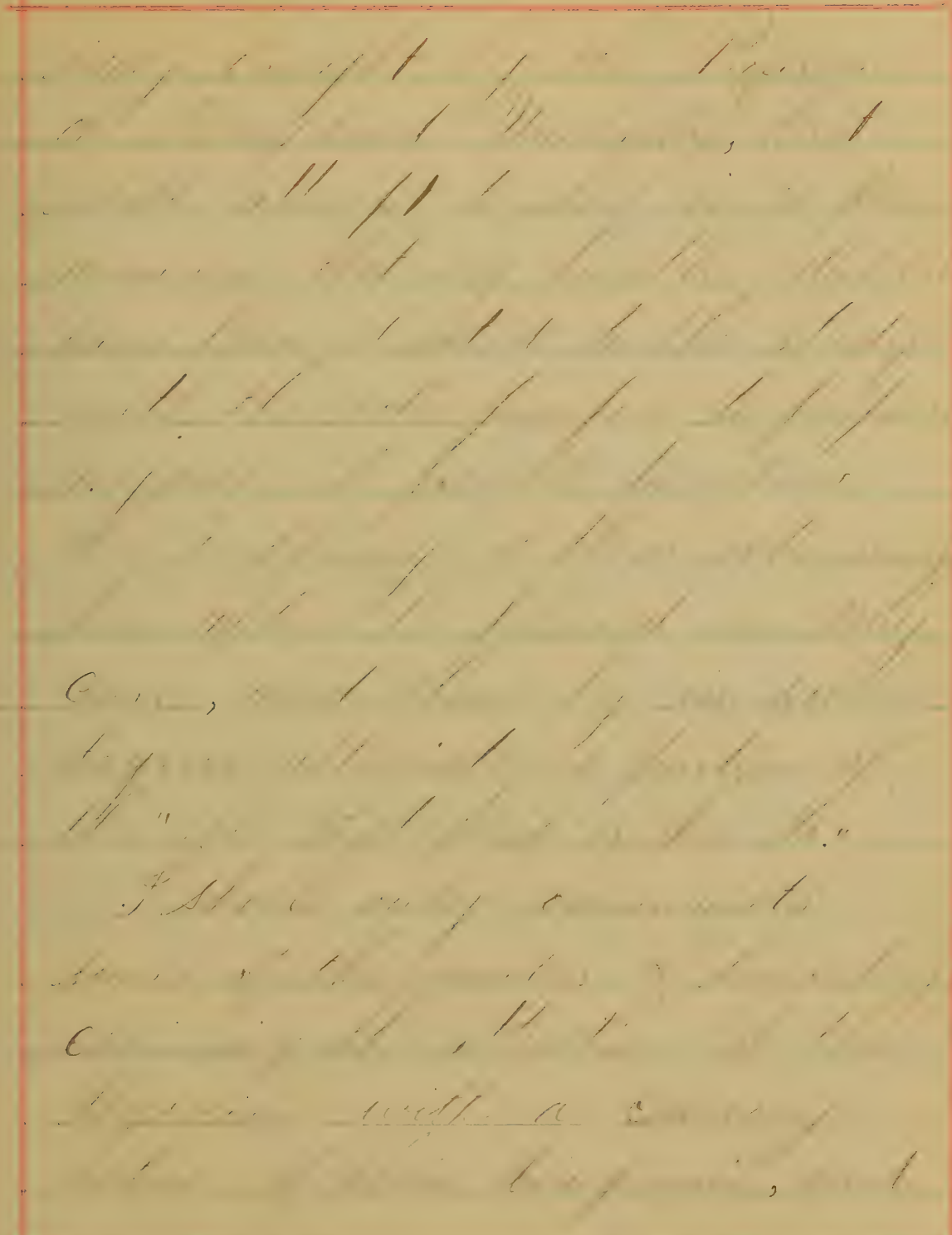
By committing this to your kind consideration I trust it will prove satisfactory

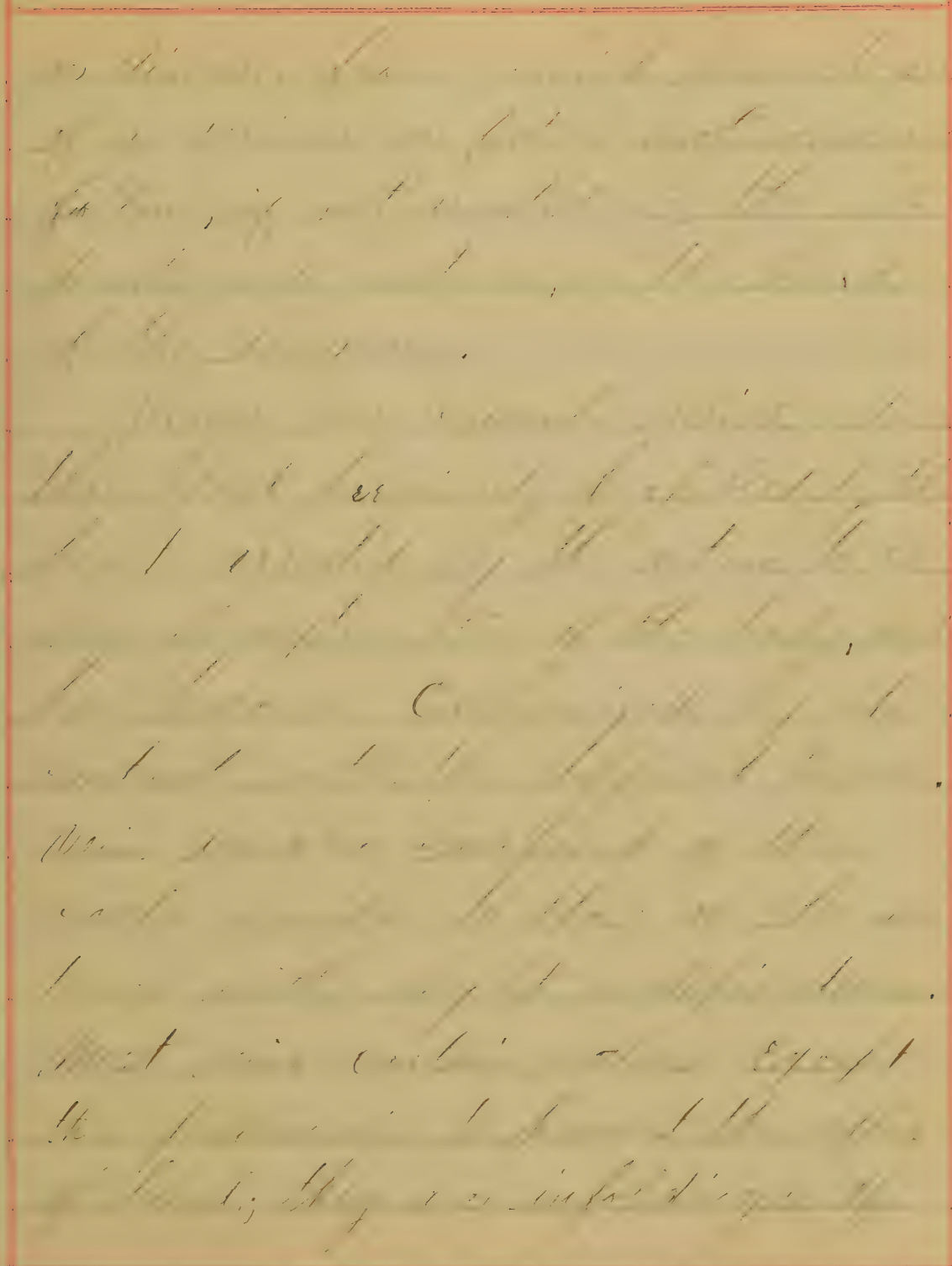
Yours Obediently

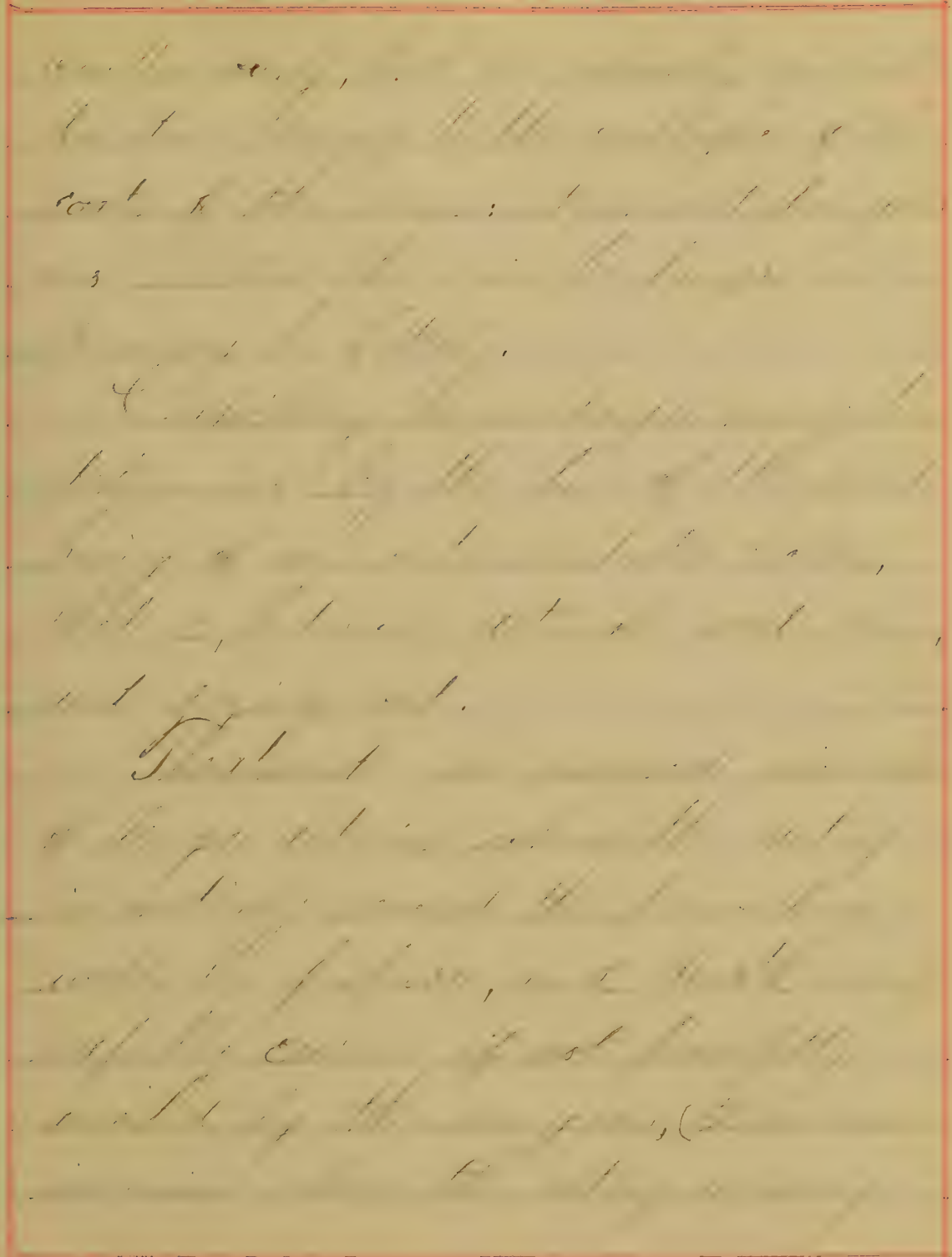
E. A. Etchison.

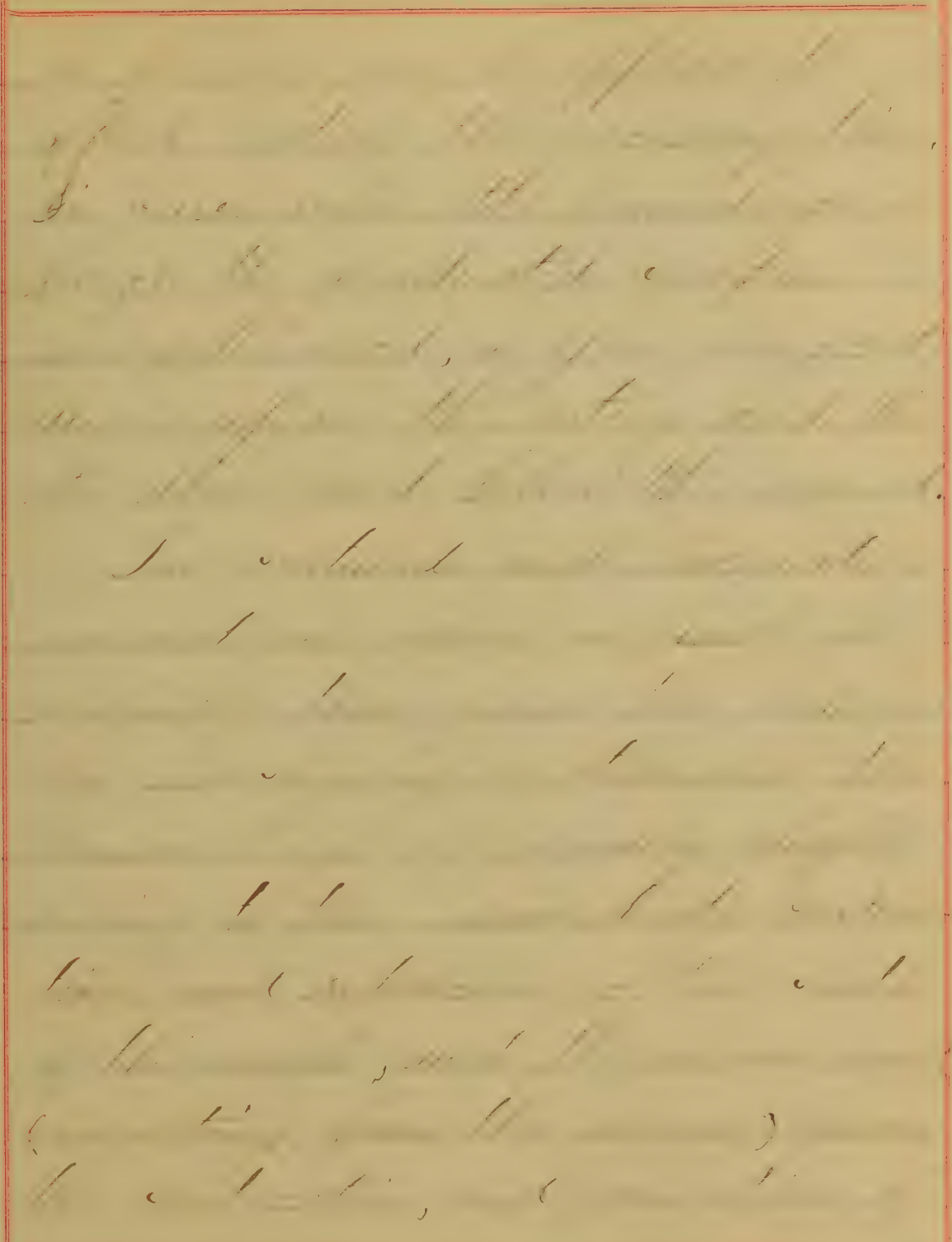
January 1st 1884.

Edi L Gans









Diphtheria.

Diphtheria is an acute specific contagious disease beginning by an infection of the [illegible] and characterized by a local exudation and glandular enlargement systemic poisoning and having for its sequelae various paralysis.

Diphtheria is a disease dating back as far as the commencement of the Christian era. Aretaeus at the close of the first century after Christ described the malum Aegyptiacum as a malady which occurred among children, chiefly being characterized by a white [illegible] which spread over the tonsils a fetid breath and in some patients a return of food through the nostrils great [illegible] ending in suffocation. Since the

commencement of the [illegible] century numerous epidemics [illegible] [illegible] and America, at the present time it is one of the most fatal and common epidemics of both continents while in many localities especially in large cities it occurs as an endemic. The first change consists in hyperaemia a vivid injection of the mucous membrane of the fauces a faint grayish white pellicle makes its appearance on the pillars of the fauces the pendulum and the surfaces of the soft palate at the end of 24 hours scarcely thick enough to prevent the membrane from showing through.

In a few hours they greatly increase in number coalesce over spaces having the area of 2 or 3 spaces thicken appearing

like bits of curds on the surface of the membrane appearing and constituting the [illegible] and [illegible] the mucous membrane forming the epithelial cells of not numbers of round, very highly refracting [illegible] in rouleaux [illegible] distinct nodules which project here and make their way into the under part of the mucous membrane, [illegible] some appear in the deep layers of the mucous-membrane which are eaten by micrococci.

These bodies having then penetrating into their interior are the [illegible] around the pus-cells increase in number and spread through the [illegible] membrane through the epithelial cells surrounding the micrococci colonies. These appear

layer. In the septic form the masses of false membrane undergo decomposition, bacteria form in immense numbers and the deepest part of the mucosa is penetrated by the micrococci filling the sub-epithelial and submucous tissues. It is generally conceded that the diphtheritic processes occurring in the nose are more apt to produce septic infection. Here the micrococci accumulate in greatest numbers and seem possessed of greatest activity the cartilages, periosteum, and even the bones are attacked. Gangrene is produced in consequence of the rapid [illegible] of cells the exudations of fibrin and the crowding of the tissues by micrococci arresting the blood supply and stopping the nutritive processes hence causing a necrosis which extends in proportion to the spread

of the membrane formation. When this
occurs false membrane mucosa and sub-
mucosa form together one semilunar,
discolored dark pulp and darkish worm
woodlike broken down mass or a dark
more firmly attached slough from which the
intense peculiar odor of gangrene is spread.
The lymphatics of the neck whose vessels take
their origin in the tissues included in the
diphtheritic process are also involved. The
micrococci penetrate to the vasa-efferentia and
crowd these vessels in large numbers. The lym-
phatic glands the [illegible], Submaxillary,
and Parotid and the chain of cervical lymphatics
underlying the sterno-cleido-mastoid muscle are more
or less enlarged. The general connective and perigloidula
tissue are swollen, infiltrated with lymphoid and

pus cells and there may also be extravasation of blood around the glands. The swelling of the glands is due to a hyperplasia of the cells the stroma remaining unaffected. The membranous exudations in a small proportion of cases extend to the bronchi by involving only a part of the tubes. The muscular tissue of the heart is soft and easily torn the fibrillae are advanced in fatty degeneration and into the muscular substance extravasation of blood occurs at various points in septic infection. The kidneys are intensely hyperaemic and swollen in severe cases but little so in mild cases but changes occur in the tubules and Malpighian tufts in all cases. In the brain there are numerous capillary hemorrhages capillary hemorrhages occur in the muscles disappearance of the stria in the course of fatty and

[illegible] [illegible]. Diphtheria is a disease of childhood under the age of one year the child is less liable to it and rarely occurs prior to the fourth month of age. the greatest mortality being attained from the second to the fifth year. Diphtheria is an inoculable and communicable disease being propagated by a specific poison the form of which is not known although it is suspected to exist as a minute organism. Diphtheria occurs during the course of Scarlet-fever. Measles. Small-pox and Puerperal fever. It is more apt to occur as an epidemic during the winter and spring but may occur at all seasons all conditions of [illegible] favor its diffusion and increase its [illegible] [illegible] [illegible] [illegible] to [illegible] the contagion. [illegible] of Diphtheria is

contained in the secretions and exudations of the fauces and it is chiefly by means of this that the disease is communicated.

Articles of furniture, carpets, bedding and wooden goods of all kinds, particles of matter adhere to with considerable tenacity. Not all persons who come in contact with the germ will have Diphtheria. The period of incubation will vary from three to ten days. The Interstitial symptoms are sometimes mild, there may be chilliness or rigors with moderate fever, Languor and perhaps more or less headache, pain in the pain or limbs and impaired appetite, still the patient may continue to walk about as if affected with temporary and slight ailment. The symptoms of light attacks are often like those

beginning with chilliness, high fever, the
temperature rising to 103° to 105° Fahr.
headache, [illegible], [illegible], restlessness
at night and occasionally delirium. The
[illegible] is referable to the throat near a
sense of heat and burning and pain on
the act of swallowing. The submaxillary
and [illegible] glands [illegible]
[illegible] the lymphatic glands lying under
the Sterno-Cleido-Mastoid muscle. The swollen
glands are hard and tender, and the connective
tissue which is infiltrated, is sensitive to
pressure. The mucous membrane intensely
hyperaemic swollen and [illegible] esp-
ecially on the pillars of the fauces, tonsils
and [illegible]. In a few hours the white
membranes appear on these grounds and in

The [illegible] ... [illegible]
on the throat of a tough exudation a
prolonged condition of asphyxia may
come on at this period of the disease and
death ensue in asphyxia. or the disease
may go on, the membrane spread the
swelling of the neck increase, and a
quantity of offensive saliva is poured out
of the salivary glands and the fauces ex-
hale a horrible fetor which awakens sus-
picion of the setting in of gangrene.
The appetite is gone, the stomach unsettled,
vomiting not unusual, bowels costive.
constipated. vomiting and diarrhoea, may
[illegible] may be produced by swallowing
of the poisonous matter which is formed
in the throat. The urine is scanty and

Eustachian tube earache noises in the ears and deafness will occur or it may spread up the lacrymal duct from on the conjunction, obstruction [illegible] causes Epiphora from the third to the sixth day extension into the larynx. Laryngeal Diphtheria is apt to occur in children and in old persons. The symptoms of Laryngeal Diphtheria is a hoarse, tonless voice difficulty and croupy cough. Cases of this kind do not continue long they usually terminate fatal recoveries may ensue, from the products of decomposition which enter the blood during the course of Croupus or Catarrhal forms the condition of septicemia will be produced. There is a discharge of foul smelling and very

frequently 98° or lower. Loss of appetite, nausea and vomiting, diarrhoea, foul [illegible] of the [illegible] [illegible] [illegible], and urine loaded with albumen [illegible] [illegible] the [illegible]. The [illegible] [illegible] is that of [illegible], the mind acting correctly but slowly, the intelligence becoming clouded as the last stage is [illegible] the result in a day or two of the disease [illegible] septicaemia. When recovery takes place the [illegible] [illegible] in [illegible] [illegible] [illegible] [illegible] rise of temperature and an improvement of the local condition.

Convalescence being necessarily slow.

The gangrenous form is an extension of the [illegible] form. The [illegible] mucous membrane is attacked by gangrene.

a Thray douche. [illegible]
and mopped with a solution of [illegible]
[illegible]. Chlorate of Potassa, Lactic acid,
Carbol. Acid. Chlorine. Lime water. Borax. [illegible]
[illegible] should also
be given internally good food. [illegible]
[illegible] Alcohol to prevent septic infection and acts as a stimulant and
food. Quinia is often given to [illegible], the temperature
Emetics are sometimes used to [illegible]
displacement of the membrane as Yellow Sub-sulphate
of Mercury. Alum. Sulphate of Zinc. Ipecac. [illegible]
persons who have [illegible] patient
need exercise great circumfection to avoid infection.
The patient should be kept alone and no one allowed in
the room except the nurse. the room should be well
aired. no one should be allowed to use the cloths & towels
that are used by the patient and immediately be
disinfected and [illegible] the cloths and lines
that have been used by the [illegible]
[illegible] be destroyed immediately and the [illegible]
[illegible] with [illegible] Acid, [illegible]

Respectfully submitted to the Faculty of the University of Maryland.

A Thesis on Alcoholism.

by C. S. Howard

Session of 1853–54.

T

[illegible]

Among the innumerable agents of disease and suffering, there is one than which few are more potent, and none more widespread and far reaching in their effects. It is not confined to certain localities as "low swampy districts, southern parts of the country" &c; but from time immemorial it has been one broadcast epidemic throughout the civilized world. And, today it sits enthroned the King of poisons where, aside to pay it homage at the expense of their mental and physical powers and the peace and happiness of their home circle.

Such a poison is Alcohol; and the physical and mental changes which

T

are [illegible] by the abuse of it are called Alcoholism.

Like many other diseases this is divided into two stages, acute and chronic according as they are manifested early or later in the course of the disease.

The acute form is due to a large quantity taken in a comparatively short time while the chronic form is the result of its continued use for a long time.

The habitual use of alcohol produces a deleterious effect upon the system at large from the fact that it is readily diffused and absorbed by the tissues especially the softer ones which con-

tain watery elements for which Alcohol has a strong affinity. Owing to this fact it is the cause of many diseases, some of which are dyspeptic disorders, gastritis, cirrhosis of liver chronic interstitial nephritis, acute delirium, delirium tremens &c.

Pathology of acute Stage. — The mucous membrane of the stomach is in a hyperaemic state the redness being in patches instead of being universal over the stomach. The trachea and bronchi are also found in this hyperaemic state through less often than is the stomach. The lungs may present the appearance due to hypostasis and occasionally that of hepatization. The brain membranes

and substance becomes oedematous. This condition is ordinarily called "wet brain".

Pathology of Chronic stage. — The mucus membrane of the intestinal tract is in a chronic catarrhal state. The connective tissue especially around the tubular glands undergoes hyperplasia and, in contracting encroaches upon the calibre of these glands causing them to atrophy and degenerate. The mucus membrane is at first hypertrophied but afterward shrinks and becomes atrophied. Very frequently there are superficial ulcers due to the erosions of the follicles. The submucus connective tissue always becomes hypertrophied. The caecum next to the stomach is the principal

seat of these changes.
The liver also undergoes morbid changes. Indeed it seems to be a favorite site for these changes. It may be enlarged with its connective tissue in a state of hyperplasia or it may be shoulder-nodulated and hard in a sclerotic condition or it may have undergone fatty degeneration.
The connective tissue of the kidneys is sometimes found to be in a state of hyperplasia with subsequent contraction forming the condition known as chronic interstitial nephritis. These changes are less frequent than those of the liver.
The constant presence of alcohol in

the blood altos it causing an excess of fatty matter. The smaller vessels become hypertrophied. The functions of the sympathetic are depressed, causing in many instances, local congestion.
The walls of the veins frequently are seen to have undergone a thickening.
The muscular tissues of the heart may undergo fatty degeneration, causing premature senile changes in the circulatory system.
The structure of the nervous tissue also undergoes important changes. The neuroglia of the brain becomes hypertrophied, the ganglionic cells atrophied, the perivascular lymph spaces dilated and the vessels undergo atheromatous

changes. And as a result the brain substance becomes firmer and shrunken, leaving vacant spaces which are filled with fluid — and the brain membranes become more opaque and thick.

Symptoms. — Taken in sufficiently large quantities Alcohol produces the immediate effect known as drunkenness. The opportunities for observing this condition are unfortunately but too frequent and need not be described in detail here. But the symptoms of profound intoxication should be mentioned on account of the diagnostic points involved. This condition is characterized by loss of consciousness and of power

over the muscles. The patient lies in a relaxed unconscious state and frequently the urine and feces are passed involuntarily. The face is floated and congested the lips swollen and purplish the veins of the face and neck are distended the pupils contracted the breathing is slow and stertorous and the pulse is feeble and slow. These are the symptoms observed when a person is profoundly intoxicated. Next in degree are manifested a set of symptoms which denotes what is called Acute Alcoholic Delirium. This closely simulates, in some respects the more chronic form, delirium tremens. An examination into the history of the case

however, will at once enable one to differentiate between the two.
The acute delirium follows an excessive indulgence and occurs in a subject free from the morbid changes due to chronic alcoholism. At the onset the patient is, perhaps, indulging in a sudden debauch or drinking heavily for a short time and possibly is also subjected to some mental worry or excitement and by these combined influences the system yields to the delirium.
The patient loses his appetite becomes restless and wakeful then excited and soon he is the prey of an exaggerated imagination. In fact the delirium may be as violent in character as delirium

tumors but it is of shorter duration and will yield more readily to treatment.

The symptoms of the chronic stage though more grave in character than those of the acute come on more slowly being the result of years indulgence and seldom occurring under middle age. All the tissues sharing in this affection the brain and nervous system included the mind of course is implicated, and, as the disease progresses the intellectual faculties become blunted, the memory treacherous, the judgment less accurate, the faculty of observing is no longer manifested the moral sense becomes depraved, the

personal appearance is disregarded the family and business interests are neglected, the power of properly associating ideas is lost the patient becomes fretful and childish, mutters or talks incoherently and ultimately the mental condition declines into imbecility.

The stomach is more or less irritable and will not tolerate food unless of a highly stimulating character and vomiting frequently occurs after eating. The irritability of the stomach early in the morning is a marked symptom of chronic alcoholism. It is due to a want of stimulus and is usually allayed when the patient gets his "morning drum".

Owing to the morbid changes which the kidneys and liver undergo and especially the obstruction of the latter effusions into the abdomen take place giving rise to ascites and sometimes to an oedematous condition of the lower limbs. Also large bags form under the eyes indicating insufficiency of the kidneys.

Such are some of the symptoms and conditions of chronic alcoholism: but, dependent upon and intimately associated with it are a set of symptoms rather apart, in some respects, from the others known as delirium tremens.

As to the immediate cause of delirium tremens there are two views viz:

whether the attack be due to an excess of stimulus taken by a chronic alcoholic or to the sudden withdrawal of it acting as an irritation of the stomach and thereby causing it to reject food and drink greatly to the detriment of the nervous system.

"Both theories are correct" says Prof. Glent. Though he inclines to the latter for proof of which he incidents cases occurring in persons who attempt to reform from intemperate habits: those who are unable to procure liquor; or prevented from drinking by the occurrence of some disease and cure it is very common among inebriates who are thrown into prison.

[illegible] from its early strong irritative excitement, reasoning or inquiry. — — — —

<u>Character</u> and <u>Symptoms</u>. — It usually begins with irritation of the stomach and loss of appetite for both food and drink; restlessness, insomnia, muscular tremor, especially of the tongue; mental disturbances, in some instances are of so grave character as to drive the patient to suicide. The patient suffers little if any pain; there is no febrile movement of any consequence; the pulse is feeble and the surface is cool. These are some of the symptoms of the introductory stage or that which is commonly called "Narcosis

This lasts but two or three days, when it is succeeded by the deliri-
ant proper which is ushered in by a peculiar mental derangement which is characteristic of it though it varies in different patients.
The expression is wild, the eyes are va-
cant or stormy the patient is restless and constantly in motion. His mind is no longer stable but wanders from one subject to another as is indicated by his incoherent manner of speak-
ing. He becomes the prey of an ex-
aggerated imagination and is con-
stantly in apprehension of some im-
pending danger or of personal vio-
lence at the hands of an imaginary

fear. All his surroundings appear unnatural to him. His friends seem to him enemies and his imagination transforms the slightest objects into giants or monsters according to the dictates of his momentary fancy.

In some instances are the patients handled with these imaginary beings until in their effort to escape them they leap from their window crushing themselves on the ground beneath.

The delirium is always worse at night than in daytime.

Tremulousness of the muscles is a fervent though not constant symptom notwithstanding it enters into the name of the disease. Vigilance is a

more constant symptom hence the suggestion by some one that the disease be called Delirium Vigilans.

Vigilance is evidently an important factor in the course of the disease for upon its presence or absence do we mainly depend for the diagnosis, treatment and prognosis.

After a profound sleep the delirium is apt to disappear. If [illegible] persist, the affection becomes worse and extreme prostration not unlike that of the advanced stage of typhus ensues, subsultus tendinum comes on the pulse becomes feeble and frequent the patient sinks into a comatose state and death by asthenia under the

scene.

The affection is evidently cerebral in character as is shown by the symptomatic phenomena; though the nature of the morbid condition is not definitely known. There is no involvement of inflammation nor is congestion an essential element in the pathology. There is a good deal of cerebrospinal fluid in the subarachnoidal space and ventricles and the brain substance is more or less oedematous.

Diagnosis. — As a rule the diagnosis is not difficult to make the symptoms being so characteristic and the history of the case of itself being almost sufficient to establish the diagnosis. There are some

complications, however, from which it is to be distinguished by: Acute alcoholic delirium, Meningitis, Cerebral hemorrhage etc. but the most important one is Pneumonia.
The first may be distinguished from the fact that it occurs only in the acute stage, the trembling and complications of delirium tremens are wanting and it terminates much earlier. Meningitis may be excluded by the absence of cerebral intolerance of light and sounds fibrile movements &c. The delirium which accompanies alcoholic Pneumonia is like delirium tremens but it arises during the Pneumonia and when Pneumonia is the

complication it arises during the de-
lirium tremens. Typhus and Typhoid
fever may be excluded by the absence
of symptoms other than delirium.
Treatment. — Delirium tremens was
formerly treated by antiphlogistic mea-
sures upon the supposition that it
involved inflammation or cerebral con-
gestion: but of course these measures
were thrown aside when it was
ascertained that neither of the above
conditions is present in this disease.
It should be remembered that the
disease has a tendency under favor-
able circumstances to cover through
in most cases remedial agents are
necessary. And in the selection of

these, two points are to be especially observed by, provide proper diet and procure sound sleep. — —
The stomach being in an irritable state milk, and lime water are the best articles of diet you can employ. Begin with small quantities and increase, giving at short and regular intervals. In some cases if a little whisky or brandy be added it is better borne by the stomach. Beefteas and broths are good especially when well seasoned with red pepper which both stimulates digestion and acts as a cerebral sedative.
The great object in the treatment of this disease is to procure sleep

for without it recovery is a matter of impossibility. But, to procure it, large doses of Opium should not be given as was done formerly. Stille says it is best to begin with [illegible] or its equivalent, and increase the dose hourly until sleep is procured. It should not be pushed to the extent of producing narcotism. And if, on fair trial, it does not have a tranquilizing effect it should not be given further. Cases have been satisfactorally by the simple administration of Alcoholic stimulants though this treatment alone will suffice in only a few cases. When the vital powers seem to be

failing stimulants should be more freely.

Tartar emetic properly given is a good agent as it exerts a sedative influence over the heart, diminishes delirium and favors sleep.

Cathartics are contraindicated.

Digitalis given in large doses is said by one of the English doctors, to have a magic effect in Delirium Tremens.

Inhalation of Chloroform is very good but should be given cautiously.

The bromide of potash given in large doses is a valuable agent and is very much used by some of the best schools in the country. Many other agents have been and are still used but these

are the principal [illegible]
use. There are other measures, aside from
medicine to be considered. The sick
chamber should be kept perfectly
quiet and should be remote from outside
noise. The wall paper and window
and bed curtains if any, should be
plain for obvious reasons.
The patient should be soothed in every
way possible and everything done in
the room should be done with a
view to promoting sleep.

Tobacco, and its Effects.

J. K. Jordan

Tobacco, and its Effects.

The use of Tobacco was comparatively unknown to the world up to the discovery of this country; we say "comparatively", for there was one species, which was cultivated & used in China before that time, but this was an inferior species, far less active & agreeable.

Tobacco, as known to us, is that designated in the Pharmacopeia as Nicotiana Tabacum, an annual plant, now cultivated in nearly all parts of the world, and to a large extent in the United States, especially in Virginia.

It is raised from small plants, which are obtained by sowing the seeds in a "hot-bed", prepared with a good deal of care, and when the plants are sufficiently large,

they are transplanted (usually in May) to the fields, which have been previously prepared for their reception.

It is a crop which requires constant care & attention, from the time the seeds are sown, until it is put on the market in the form of Manufactured Tobacco.

The plant grows from three to six feet in height, having large leaves, the lowest of which often measure two feet in length, by six inches in width; and if allowed to go to "flower", it is surmounted by a stem having numerous bells of a beautiful rose color.

The "flowering" however is prevented by the process of "topping"; that is, the top of the plant, after it

has attained a considerable size, is cut off. This tends to the more perfect development of the leaves, which are the valuable portion of the plant.

The Harvest is in August, when the plant is cut, the leaves stripped from the stem, and hung in the "Drying House", where they are subjected to a considerable heat, to make them "sweat", after which they are dried & packed into hogsheads, and sent to the manufacturer; here they are subject to various processes & are then ready for consumption, in one of the forms of Smoking or Chewing Tobacco, or Snuff.

When taken from the field, the leaves, are of a green color, with

little or no odor; but after being subjected to the drying process, they become of a yellowish-brown color, with a strong narcotic penetrating odor, and possess a nauseous acrid taste.

Such is a brief history of its preparation, leaving out much that is interesting but still superfluous here.

There is good reason to believe that the plant, as now used in almost every country of the world, was a native of Tropical America, and its use was adopted by the Spaniards from the Indians of that region. The Spaniards carried it to the Court of Lisbon, where the use of it, was learned by Nicot, the French ambassador to that Court,

and Nicot, in his turn, introduced it into France. From Nicot we get the officinal name Nicotiana.

Sir Walter Raleigh is supposed to be the wretch who is doomed to bear the blame of the introduction of the much abused luxury into England; while its use came to the Americans by the inherent desire, we may suppose, to obtain something, which, like the Lotos, would bring oblivion of all they had left behind "in their Island home far beyond the wave."

It is now used in every country of the world, which possesses any civilization (in the modern acceptation of that term), as well as in a good many other countries, in

which no such civilization exists.

Tobacco is consumed, in these countries, in the three forms mentioned above, viz: Smoking and Chewing tobacco & Snuff. The first & most important of these is Smoking tobacco, in as much as it is most generally used, and has attracted most attention, and as the other two forms have fallen into comparative disuse, on account of the great prejudice against the habit, which is certainly a very unrefined & disagreeable one, not to say filthy.

So that we will confine our attention principally to the Effects of Tobacco-Smoke upon

the system generally.
A great deal has been said on this subject, both pro & con, and the most extravagant opinions have been expressed on both sides; on the one hand, tobacco has been upheld as the most harmless of luxuries, on the other, it has been denounced as the source of every trouble, both mental & physical.
Let us then first look at the composition of tobacco smoke, as it is taken into the system, and examine the effects of the various constituents upon the different organs.
Of course, different tobaccos vary in the percentage of their constituents, and some specimens contain

materials not found in all, but we will take the following as the leading constituents (for which of course we are indebted to the researches of another).

1) Water, in the form of vapor
2) Carbon, in the form of soot.
3) Nicotine, also a vapor, but which is readily condensed into a colorless, oily substance, when brought in contact with a cool surface.
4) Carbon Monoxide & Carbon Dioxide.

The Nicotine is itself a complex substance and may be resolved into

a) Nicotine proper.
b) Empyreumatic substance, volatile, and containing Ammonia & the dark Resinous Bitter Extract.

From a strictly chemical point of view, the above would be a very

unsatisfactory analysis, but for all practical purposes it is sufficiently complete.

We will now examine the Physiological action of these constituents, and then see what diseases are likely to accrue from them.

1) The water may be considered harmless & may be passed over.

2) The Carbon, being in a free state, & in finely divided particles, will act as a mechanical irritant to the parts with which it comes in contact, and when present in large quantities, as is the case with confirmed smokers, will color the secretions of the Bronchial tubes, and even the teeth. The amount of this carbon in a single cigarette may be guessed, when a single

mouthful of smoke blown through a piece of clean linen will perceptibly discolor it.

3) The Ammonia (of the Nicotine) is the substance that "bites" the tongue and makes the throat so dry, causing a large amount of water to be taken in by the smoker. It also excites the salivary glands to hypersecretion, causing expectoration in the beginner.

4) The Carbon Dioxide produces the languor, headache &c, but being present in small quantities, it requires sometime for the habitual smoker to feel its effects.

5) The Carbon Monoxide is either entirely absent, or present in very small quantities, according to the rapidity with which the tobacco

undergoes combustion, but when present in sufficient quantity, it is a very poisonous agent, producing drowsiness, unsteady movements of the heart, tremulous or convulsive movements of the muscles & vomiting (through the blood).

6) The Bitter Extract is the substance which gives tobacco its sharp, disagreeable, nauseous taste; & when its effects are long continued upon the youthful victim, makes him long to be anywhere, anywhen, out of the world; away from kindred & friends and especially the delicacies, which would normally tempt his appetite. It is this that proves so disastrous to his aspirations. The parent sees his langor & palor, recognizes

the cause and proceed to remove it by the proper course of treatment and training.

7) Nicotine proper produces tremor, palpitation of the heart, and finally paralysis. It is a most powerful poison.

8) The Empyreumatic substance gives the peculiar odor to stale tobacco smoke, which is also communicated to the breath & clothes of the smoker. It is this that makes the odor of an "old" pipe so disagreeable.

These are, briefly, the specific effects of the constituents; let us now look at the action of tobacco as a whole.

When the poisonous elements are absorbed by the blood &

carried into the system they affect almost every part of it.
The Stomach is the first to give indication of the ill effects. This organ tries to expel such of the poison, as come in contact with its mucous membrane, so that the phenomenon of vomiting is set up, provided the amount of the poison is sufficient to materially interfere with the function of the organ. The poison, if stopped at this point, soon passes off; otherwise, it would be a greater evil than it is to the human race.
If the poison, however, be continued, the Brain & Nervous System are next to come under its influence; the results are unsteadiness, twitching, or even spasms of the muscles;

swimming of the head, and convulsions. These muscular spasms may proceed to the chest, and even to the heart, producing, it may be, fatal results, Dyspnoea or Syncope.
But constant use, fortunately or unfortunately, modifies its action; as in the use of Opium, the system becomes accustomed to its effects, adapts itself to the new call upon it, and ceases to give evidence of the more serious symptoms.
The poisonous substances of tobacco are eliminated by the three great channels viz: the lungs, the skin & the kidneys.
The lungs & skin exhale the volatile elements, while the kidneys eliminate the Nicotine, which is not volatile at the temperature of the

body, and the Bitter extract, a
soluble solid. Thus, if the lungs
are not in a proper condition,
the skin is called upon to do over-
work, and vice versa, while the
kidneys are called upon to elimi-
nate a substance, which is un-
necessary, so that they are also
over-worked. But within certain
limits, the disorders produced are
functional, not organic, so that
if the habit of smoking be dis-
continued, the necessity for over-
work is removed, & the organs are
soon restored to their normal
condition; but if the poisonous
effects are continued beyond the
limits (which of course vary in
different people), organic disorders
are brought on, which are not

as easily got rid of.
Having thus hurriedly reviewed the physiological action of tobacco, we will now look at the pathological changes, which take place under its use.

I. On the Blood.

The prolonged inhalation of tobacco smoke makes the blood become thinner, due chiefly to the Ammonia and Carbon Monoxide. The blood being thus defibrinated to some extent, flows freely from a wound not having the element to cause coagulation, & thus in extreme tobacco poisoning, a fatal result might accrue from a wound which would normally be considered trivial.
But the most marked effect upon the blood is evidenced by

the changes which take place in the red corpuscles from the action of the Carbon Monoxide; they lose their round & regular outline and become oval or of irregular shapes, and also lose their attraction for one another and float along sluggishly in the current; many of them are disintegrated, & the fibrinoplastin & ferment thus set free would cause clotting within the body, were it not for the counteracting effects of the ammonia.

But even in this serious state, the blood will quickly regain its normal thickness, & the corpuscles their vitality, if they be relieved of the poison for even a short a time as one day.

This change in the blood takes

place more rapidly, if the stomach is empty, so that few men can enjoy a smoke on an empty stomach; and vice versa, when the stomach is full the change in the blood takes place more slowly, hence, we enjoy smoking immediately after a meal more than at any other time.
It is easy to understand why the change should take place more rapidly, when the stomach is empty, for absorption, of course, takes place more easily & quickly from the empty stomach.
Again, the evil effects are more easily produced when the smoking is carried on in a close room or car, the air of which is already impregnated with not only the

tobacco smoke, but also carbonic acid gas (Carbon dioxide) previously exhaled, by the smoker himself, as well as by others, who may also be in the room or car. Under these circumstances, the smoker inhales, over & over again, the poisons already floating in the air, while he is unable to get rid of those, which he is himself driving from his cigar or cigarette. And again, if much water is taken into the system with the smoke, as is apt to be the case with the new convert to the art, this helps further to dilute the blood & hold the poisons in solution, or suspension, and still further increase the evil effects, and also renders the poisons more difficult

& elimination

II.) The Digestive Organs are next to be considered.

It matters not how habituated to the use of tobacco one may be, the poisons still continue to produce abnormal conditions in these organs. Tobacco impairs appetite & interferes with digestion, and the habitual smoker is often heard to say that tobacco relieves his hunger. The Nicotine diminishes peristalsis, and thereby interferes with digestion; the Bitter Extract also has the effect of making the mucous membrane (or more properly the glands of that membrane) secrete irregularly, which also, of necessity, interferes with digestion; & this factor, added

to the above, makes Dyspepsia an almost inevitable result.

III) On the Salivary Glands Tobacco has also an effect; viz: it excites them to hypersecretion.

It has been urged, as an argument against the habit of smoking, that as the saliva is necessary to digestion, and as this over action is apt to cause expectoration, in order to get rid of the excessive amount, the smoker thus loses a great deal of a fluid, without which digestion must be incomplete, and not only is the starch not converted into sugar, but the food is not sufficiently lubricated for swallowing.

This would be a valid argument, if men smoked & eat at the

same time, but this we know is not the case, and after smoking, as soon as food is introduced into the mouth, there is always an abundant flow of saliva; but though this argument is easily refuted, there is one which is not. When this over-action is excited, the smoker must swallow some, if not all of the saliva, and it thus acts as a vehicle to carry the poisonous substances into his stomach, while if he expectorated freely, much of the poison would be thrown off.

IV On the Throat.

The mucous membrane covering the tonsils and all parts of the throat, becomes inflamed, from the constant irritation set up by the various constituents of the

smoke, and hypertrophy of the tonsils follows in most cases. This, however, is not constant, but in the majority of smokers some such trouble will be found, though it may exist for some time, without their being conscious of any inconvenience from it.

V) On the Heart.

The action of tobacco on the heart has been warmly argued, some believing it is almost of no consequence; others, that it is attended with considerable danger. But there is no reason to believe that the action is sufficient to produce any structural change

in this organ. But the action of the smoke, on the contrary, may tend to check excessive action of the heart, and thus prevent structural change. For instance take a man, who has to endure hard labor, & whose heart is consequently called upon to do excessive work, in order to supply the demands; such a heart is in danger of hypertrophy or dilatation. Now the action of the smoke, not on the heart itself, but on the brain, & through it on the Pneumogastric, would slow the heart & prevent any such change.

But while tobacco may thus

prevent structural change, there can be no doubt that its use may seriously interfere with the function of the organ. All who smoke have experienced at times a feeling as though the heart were rising in the throat, or of breathlessness and palpitation, or even severe pains in the region of the heart. This is due to the action upon the sympathetic system, causing muscular spasms, followed by enfeebled action.

VI) On the Lungs.

As those, who are not addicted to the use of tobacco, stand always ready to lay everything they can

to its charge, as it has been accused of being the direct cause of Consumption, Bronchitis &c, in many cases, just because the victim of these diseases happened to be a smoker. Now, while Statistics show that in a certain number of patients, affected with such trouble, a majority of the males were smokers, still this leaves out all the females, who are equally liable to the diseases, or nearly so, and who are as a class non-smokers; and even in the males, the majority of smokers is in every case very small, so that tobacco cannot be considered

as a very fertile cause of these troubles. But we do not mean to say that tobacco is entirely free from blame, for there are some cases, the origin of which may conclusively be proved to be tobacco.

Tobacco may be & is, in all cases, injurious to those who are already suffering from such diseases, and hence its immediate discontinuance should be urged, as it will most surely aggravate and prolong, what might otherwise be easily got rid of.

VIII) The Teeth are not injured by the use of Tobacco, except by the

formation of Tartar. Tartar consists of the salts of Calcium, Potassium &c chiefly the sulphocyanide of Potassium, which are normally contained in the saliva; and when this fluid is present in abnormally large quantities, of course larger quantities of the salts are deposited upon the teeth; but even this may be prevented, if proper care is given to cleansing them. On the contrary, the carbon of the smoke contains a certain proportion of creasote; this carbon is deposited upon the teeth, & while it discolors them, the creasote tends to preserve, rather than

ingin them.
We now come to the question which is so much discussed viz:
Is cancer a result of smoking?
It is considered by many that tobacco stands to cancer in the relation of Cause and Effect; but this is of course simply ridiculous, as cancer existed long before tobacco was introduced as a luxury. Again, cancer is found in many of the lower animals, which of course could not have derived it from tobacco. A still stronger argument is the fact that cancer is known to be more prevalent among females, who do not smoke,

than among males. Thus we see that smoking cannot be the cause of the general disease. But cannot a local cancer result from smoking?

This is a different question, & must be answered in the affirmative; but it produces the local cancer only, as any other irritant would. For instance, cancer of the tongue is excited by constant irritation from a decayed tooth; cancer of the throat may arise from some foreign body being lodged in the throat; cancer of the lip may come from the constant rubbing against the

lip of a rough pipe-stem. In nearly every such case we find that the smoker has been in the habit of using a foul pipe with a short, rough stem which has the threefold disadvantage of fouling, allowing the nicotine &c to be found not upon the lip, instead of being condensed on the surface of the stem, second the short rough stem is itself an excessive irritation, as it is not supported by the hand, as a long one would be, but is held between the teeth and thus pressed firmly against the lip; third, being short, it must become hot, & the heat is an additional source of irritation.

We now come to the effects of tobacco upon the Nervous System.
This question, alone, is one of vast scope and a full discussion of it would require a volume, instead of the few pages which we will devote to it here.
In the first place, let us look at its effects upon the organs of special sense, beginning with the Eye
The first thing we notice, after habitual smoking, is some slight and almost inappreciable impairment of vision. The patient does'nt see quite as well as formerly. The letters become confused and the lines dance or fade out for a

moment before his eyes, or sometimes dark spots are seen to float before them, which spots assume various colors, when he raises his eyes from the page; he may shut his eyes, but the spots remain as distinct as ever, but on keeping them closed for a moment, they disappear. Sometimes he experiences a pain in the back of his eyes, especially when looking at white objects.

A striking characteristic of the eye of the confirmed smoker, is the length of time the retina retains the image of an object. In extreme cases, it has been noticed that

an image may be retained three four or three minutes, instead of about 1/30 of a second, which is normal. That this is the immediate effect of smoking, is proved by the fact that this power begins when smoking is begun, increases as it is continued, and decreases as it is discontinued. If we examine the eyes of the confirmed smoker, we notice that the pupils are abnormally dilated. This is the effect of the nicotine upon the third pair of nerves, which supplies the circular fibres of the iris. These fibres become paralyzed, and the radiating or dilator fibres are

left free to act, and the pupil thus becomes dilated. This causes the defective vision, the pupil failing to regulate the amount of light which enters the eye; the defect will, of course, be more apparent on bright days. Besides this, the patient may have lost the power of distinguishing certain colors; he may also suffer at times with Diplopia, the effect of the nicotine on the branches of the third pair, running to the muscles of the eye. Finally, & most serious, is Atrophy of the Disc, causing blindness, under the name of "Tobacco Amaurosis".

Next in order of the special senses is the Ear; the effects here, however, are not so marked. The principal effect ~~is~~ is an occasional acute ringing sound in one ear, rarely affecting both at the same time. This is disagreeable, but it causes no impairment of hearing; for a watch will be heard distinctly if held to the ear, while the ringing sound is going on. There may also be some slight impairment of hearing independent of this, the patient being unable to distinguish very soft or very loud sounds, but the change is so slight as to be almost unappreciable.

In regard to the other Senses, viz: Smell, Taste, & Touch, little may be said, as smoking has no effect upon either, unless it has an indirect effect upon Smell in exciting a Nasal Catarrh in those predisposed to that affection, or in aggravating one already existing.

But there is no doubt that Snuffing has a deleterious effect upon Smell, even going so far in some cases as to completely destroy it.

As the second class of effects upon the Nervous System, we will look at its action upon the Brain.

Here we find all sorts of disorders

laid to the account of tobaccos; but when we begin to examine statistics and authorities, we find that, as in other cases, when no immediate cause can easily be found, the evil effects are believed to be from Tobacco; and in some cases, tobacco gets the blame, even when the real cause can be found, but the patient, or someone otherwise interested, does not choose to give that cause.

Apoplexy is a disease, or rather an accident, which is often addduced as a frightful effect of tobacco, and a consequent argument against its use, but in statistics which we have at hand, out of eighty

cases of death, supposed to be of apoplexy from tobacco, only eleven were proved to be true apoplexy, and of the eleven, only one was an excessive smoker. Again Vertigo has been brought forward as another formidable argument. But here too the evidence is not sufficiently strong, to establish the truth.

It has even been said by some bitter opponents of this luxury that it is a fruitful cause of Insanity. This, too, is an absurdity, for if it were true, there would, of course, be a marked majority of the males, who smoke, over both the males & females, who do not smoke,

all statistics show us such majority.

What, then, are the effects of smoking upon the Mental faculties? It depends very much upon the condition of the person, whether smoking shall have a bad or a good effect upon him.
If he is about to enter upon a day of mental labor, with his brain rested by the previous night's sleep, it is by no means proper to commence with a cigar, for then, it will impart to him a heavy dull feeling, which added to the interference with digestion, spoken of before, will incapacitate him for the work before him.

still worse, if it is smoked before
breakfast; for added to the other
two, there will be the loss of ap-
petite, so that he does not take in
enough of food to supply the de-
mands of the body. He, therefore,
goes through the day with the
dull feeling, & goes home at
night disgusted with himself
and with everything around him.
But on the other hand, take a
man, who has gone through a
day of mental application, with-
out smoking; his brain is ex-
cited, & he experiences the feeling
of uneasiness which follows a
tired brain. If now he indulges

in a smoke, it seems to soothe & revive him, and promote a quiet & refreshing sleep.
The great difficulty about this point is, that a smoker cannot, or will not feel off smoking until he really needs the effects of it, but whenever he is under any mental strain, his system, being accustomed to the soothing influence of the smoke, demands it at frequent short intervals. But since we may say that a man should not feel the need of this influence, and such a desire is abnormal. We admit this, but they must also remember that

in this day of progress, the
Brain is called upon to do more
work than it should naturally
do, and must therefrom have un-
natural retorations.
We now come to the third class
of effects of tobacco upon the
Nervous System, its action upon
the motor and Sympathetic nerves.
But very little is known of this.
The action of nicotine upon the
motor nerves is to excite, through
them, muscular agitation, followed
by temporary weakening or sus-
pension of their action. The most
striking example of this is the
Auricular palpitation of the heart.

It is also shown in the twitchings of the eye-lids &c, so well known to all smokers

Upon the sympathetic, it may also cause muscular spasms, as evidenced by the pain and sickness of the stomach, followed by spasm of the muscles and that direadful vomiting, which so quickly relieves the young smoker of all his aspirations.

The human race is prone to commit many indiscretions, and, among them, we find a proneness to the use of tobacco.

The question, then, naturally arises "Is there not some way

to mitigate the effects of tobacco, so that its evil effects will be reduced to a minimum?" We say Yes!

The proper way to smoke is to use a pipe, with a clean bowl, made of some absorbent material, such as clay or meerschaum, with a long stem, at the end of which is a smooth piece of amber, for the mouth.

Here we have everything requisite to the prevention of injury.

The bowl is clean, and able to absorb much of the empyreumatic oil, nicotine &c, and thus keep them at a distance from the mouth; the stem being long, has a large

condensing surface, by which the nicotine is further prevented from getting into the system; again, the length of the stem requires the support of the hands, and this relieves pressure upon the lips, and moreover, the heat of the pipe is kept at a distance from the mouth, and the whole volume of the smoke is cooled, to some degree, before entering the mouth; again the mouthpiece, being smooth, the irritation upon the lips is reduced to a minimum.

A still better form of pipe is the so called "Turkish Pipe", which

has not only the long stem, smooth mouth-piece and absorbent wool, but also a vessel containing cold water, through which the smoke is made to pass. This has an additional mode of getting rid of the nicotine, which is very soluble in water, and, at the same time, the smoke is relieved of all its irritating heat, and renders the mouth delightfully cool.

But this is an extremely inconvenient method of smoking, as the apparatus cannot be carried around; and as convenience adds to comfort, and as comfort is the half of pleasure, men fain

generally resolved to one of two methods: the Cigar or the Cigarette. The popular idea is that the cigar is the least injurious of all forms of smoking; but this is erroneous for many reasons. A cigar is short, and has no surface for cooling the smoke; when the cigar is first started, some of the volatile principles (nicotine &c) are volatilized and pass up toward the mouth to be then condensed in the upper part of the cigar, and are thus added to what are already there; and as the smoking is continued, and the heat approaches the upper part,

all these collected materials are
evaporized, and thus in bulk
carried into the system. Add to
this the irritation from the heat,
which is very great, the cigars
being nearly always smoked
until too hot to hold between
the lips, and we readily see that
cigars are by no means without
disadvantages. We say nothing
here of the many impurities
which may find their way
into the cigar, and be concealed
under a nice wrapper, while
they would readily be detected in
tobacco prepared for a pipe.
The last and most popular form,

especially among the young men of today, the form which has all the disadvantages already mentioned and others besides, with few of the advantages, is the Cigarette.

Cigarette-smoking is a comparatively new custom, having been introduced into this country within the last twelve or fifteen years by the French, who in their turn learned it from the Spanish (?) But within these few years it has grown from an unknown, to, we may say, almost a universal custom.

It possesses, we say, all the dis-

advantages, with but few points to recommend it.

And first, the cigarette, being short, has no cooling or condensing surface interposed between the fire and the mouth, and hence not only do the volatilized principles find free access to the system, but the lips are constantly irritated and scorched by the heat. In the second place, the same objection may be urged to the ready made cigarette, which we found to the cigar, viz: as their manufacture is not observed by the public, many impurities and adulterations are added to the tobacco. This is but

obviated by the smoker buying pipe-tobacco, which he can examine for himself, and rolling his cigarettes when he wants them.
The third and great objection raised against cigarettes is that they are rolled in paper, which, this time, purports to be "pure rice paper", but which nevertheless is bleached with arsenic. This is easily proved by subjecting some of the papers to Marsh's test, when we readily get the characteristic black mark on porcelain.
Those who think they know, then say that this arsenic getting into the system in even such

small quantities, may cummulate, & thus give rise to symptoms of the most dangerous character; but we cant say we agree in this point, as there is very little probability of any such cummulation; but the arsenic would rather tend to act as a tonic.

We have extended this paper beyond the limits intended for it, but the subject is one of such vast scope that we have at last been compelled to leave out much that is important. We hope however to be forgiven for this transgression upon your patience, but, as we are willing to "Render unto all

their dues", as we see Tobacco accused of many things of which it is innocent; and while it is an agent fruitful ~~of~~ certain kinds of ill-effects, still many sins are laid to its charge, by those who seek something, behind which to hide their own ignorance.

Very Respectfully,
J. K. Jordan

Remittent Fever.

By

C. C. Winslow.

February 14th 1884

Baltimore

Maryland

Remittent Fever

As the influence of the so called miasm upon the human system is a subject of general discussion among medical men at the present time, I will venture to give my limited views upon the subject. And select that part of the trouble known as Remittent fever, of which there may be two varieties, Viz: Simple and Malignant, the former will be the subject of discussion.

Symptoms. Although the

premonitory stage is usually short, and not unfrequently wanting, its general occurrence is well established, its symptoms are those of general malaise, with some headache, slight nausea, and furred tongue, These increase, until a chill, not violent, but lasting for some time, fairly begins the attack, or an ill-defined cold stage, with a feeling of chilliness, languor and debility, and perhaps cerebral oppression and gastric disorder, may occur, after this

The febrile condition is developed, The skin becomes hot, dry, and harsh; The pulse rises in force and frequency, The face is flushed, Headache is throbbing and severe; the faculties being unfitted for any mental exercise, Violent pain is almost always felt in the back, and very often in the limbs also, Epigastric uneasiness is nearly universal, Nausea and Vomiting extremely common, The bowels are costive; when opened, however, The stools are colored with

bile, The urinary secretion is scanty, Thirst is always great, cold drinks being much preferred, Respiration is hurried, although free, After a continuance of these symptoms for several hours they begin to abate more or less, even without treatment, The feelings of the patient are more comfortable, he sleeps, and wakes with a skin less hot and moist, may even be in perspiration, Headache and some pain in the back are apt to remain, however, and the

pulse does not subside to the natural standard; The stomach, though, is less disturbed, and thirst not so intense, Mostly, in from six to twenty-four hours, The patients discomfort again increases. The skin becoming even hotter than before, and quite dry. The pulse rises again. Thirst is great, although sometimes less than the first paroxysm. The headache returns, and with it usually severe pain in the back, The tongue is now thickly

furred, Nausea and disgust
for food are again felt,
and in a large number
of cases Vomiting returns,
the Stomach rejecting every
thing, even cold water.
The Stools will be found
to contain bile, Yellowness
of the skin appears in
a majority of cases, in
Various degrees,
The advance of the disease,
after the second paroxysm,
is exceedingly Various, but
the periodical character
is retained throughout
the attack, The remissions

may occur at any hour, but in protracted cases it usually occurs in the morning. The fever lasting through the night. Quite frequently a double tertian type is observed, the exacerbation occurring one day in the morning and the next in the afternoon, and sometimes with different degrees of violence

Causes. This is a question which has not yet been settled, though it is thought that the material cause

of Malarial fevers is a minute Vegetative organism, whose substance or emanations enter the body, such results, of course, require repeated investigations to make them actually matters of ~~demonstration~~ Diagnosis. Yellow fever has by some physicians regarded as identical with remittent, but the clinical history of the two troubles proves that they are specifically distinct diseases. When the typhoid state supervenes

There may exist very considerable similarity to true typhoid fever, and from this fact, some have grounded the opinion that they are not specifically different. And that typhoid fever is merely a protracted remittent of low form. But the mode of onset of the two troubles are entirely different, the typhoid. The symptoms are insidious and almost imperceptible at first, the remittent fever after a day or two of malaise, a chill abruptly

When in the attack, Vomiting is extremely common in the one, and quite rare in the other, Epistaxis, Bronchitis and the rose-colored spots so common in Typhoid are rare in the Typhoid Remittent, In fact the Clinical history of the two diseases is so different that it clearly points to the fact that they are Separate and distinct Maladies,

Prognosis, Recovery may be anticipated in a Majority of instances, Before

the use of Cinchona, Remittent was often quite fatal, Favorable signs are, the earlier occurrence and prolongation of the remission, and its becoming more and more complete, Moistening and clearing of the tongue, Copious perspiration, &c, Unfavorable, of course, are, the shortening and postponement of the remission, and its indistinctness, Dryness and blackness of the tongue, Retention or Suppression of the Urine - &c,

Treatment - In a person of robust Constitution, if the headache is very severe, skin hot and the pulse full and rapid, it is common to administer a Cathartic, some prefer a Calcine, while others like a Mercurial as Calomel or Blue Pill, the ordinary Comp. Cathar. Pill is as good treatment, in my opinion, as can be employed in the beginning. Special treatment may often be called for by the great distress

of the Stomach, Lime-
water or Magnesia
will often relieve this
difficulty, Sinapisms and
Pediluvia are of course
great adjuvants, Ice will
answer better to quench
the thirst than water,
As soon as the Violence
of the systemic excite
ment has been moderated,
without waiting for its
entire subjugation, if the
pulse have begun to sub-
side, and the headache
is less intense, We begin
with quinine, but it is

unnecessary to begin with
large doses, unless some
malignancy is suspected.
Best to give in small
doses. Say from 2 gro to
5 gro. every 2 or 3 hours, un
til the remission. Then
the dose may be in-
creased if necessary. Af-
ter two or three days of
dimininization. The amount
usually may be dimin
ished to eight or ten
grs. distributed through
the day. The treatment of
complications must super
add modifications appropriate

to them, due slow convalescence, with deranged digestion, the daily administration. For a few days small doses of blue pill will generally do good. To improve the condition of the blood small doses of Iron combined with Guinine will act remarkably well, and make a valuable termination of the treatment, Arsenic may also, sometimes be required,

A

Thesis on Typhoid Fever

Presented to the

Faculty
of the

Maryland University
of

Baltimore
by

Edward L. Miller

Typhoid Fever

The name typhoid Signifies typhus like, the pertinency of this name consists in the resemblance of the disease to typhus fever, typhoid fever prevailes very extensively in this country and been known with us as common continued fever. There have been many other names for this fever but none other has been adopted, By the German writers the disease is called abdominal typhus, Prof Gu-B Ward, has suggested the name of enteric fever, Murchison has proposed as a substitute pythogenic fever, This name was introduced by Louis, as no one has generally been adopted, the disease probably will be continued to be called typhoid fever.

Anatomical Characters, Typhoid

Fever has certain special lesions, which are highly interesting and important which are situated in the peyerian and solitary glands. the changes which are characteristic of the fever are thickening, softening, and ulceration of glands, Enlargement, softening and ulceration of Mesenteric glands and especially those corresponding with the morbid patches of intestine. Among others which may be affected is the jejunum. duodenum: pyloric end of the stomach, other lesions met with are ulceration of the pharynx, epiglottis cartilage, softening of the spleen, sometimes of the liver, and kidneys, hepatisation of the lungs, softening of the heart,

and sometimes inflammation of the meninges of the brain with effusion. The first step in the charge of the abdominal lesions is sloughing away of the glands and mucous membaine. the nept step is ulceration, the ulceration may extend to the muscular coat and also to the peritoneal sac. and may set up peritonitis by discharging the contents of the intestines into the peritoneum, this is one source of peritonitis and another is from the mesenteric glands when they become affected they are sometimes absorbed and sometimes they become, as large as a pigeon egg and are either absorbed or burst, and discharge into the peritoneum and set up peritonitis. Usually the patches of the intestine are

indurated to the touch, they are sometimes smooth, and sometimes present an irregular granulated, aspect. the glands nearest the cæcum are first affected and pass successively upwards. sometimes the glands of the large intestine is exclusively affected, and the small intestine is unaffected, as regards the sloughing the rapidity of the sloughing there is a variation in different cases to the time ulceration is a consequence of the sloughing, after the sloughing is completed ulcers take the place of the peyerian and solitary glands The ulcers first occurs in the glands nearest the cæcum, and successively in the ascending series. ulceration in the lowest gland rarely take place before the end of the second week, of the

disease. but exceptionally it may occur during the first week. Generally the uppermost glands do not become the seat of ulcers until the third week or even later. the occurrence successively, of ulcers in the gland from below upward is one of the distinctive features of the disease.

Cicatrization is the last step in the series of processes, a thin serous like membrane is formed at the bottom of the ulcers, this membrane gradually becomes thicker and firmer and at length the excavations produced by the sloughing away of the glands, are filled up. It is not probable that the glands are reproduced, the process of cicatrization usually begins

in the third week of the disease, and is going on during convalescence, the time occupied in the completion of this process varies in different cases it is sometimes slow a fact which accounts for the persistence of the abdominal symptoms in certain cases for sometime after the career of the fever is ended. Perforation of the intestine is liable to occur in one or more of the ulcers, it may be due to an extension of the ulceration to the muscular and peritoneal tunics, to sloughing of these tunics or to rupture. the opening is sometimes extremely small, if due to ulceration it may not be larger than a pin ~~point~~, if caused by sloughing or by rupture, the opening may

be of considerable size. and set up acute peritonitis The foregoing list is peculiar to typhoid fever, in a greater or less degree they are always present and they occur in no other disease they are characteristic of typhoid fever

Clinical History. Typhoid Fever as a rule is developed gradually, the time occupied in its development is considered by some as a precursory or prodromic period and as a stage of the disease. The disease in some rare cases is abrupt the Patient takes to the bed at once. Symptoms, there is a sense of weariness, languor, and general uneasiness, slight headache on rising in the morning, dulness of intellect, irregular flushes of heat,

or chilliness, slight acceleration of pulse, furred tongue, and a disposition to diarrhea, these symptoms may last from several days to a week or more after which the disease is established by the occurrence of a chill, followed by the ordinary phenomena of fever. the disease being fairly established, there is increased frequency of pulse, ranging from 90. to 110. or 120. and a rise of temperature, as the disease advances these symptoms become aggravated, the pulse is more frequent and strong the skin hot and dry, the tongue dries and becomes red at the tip and edges, there is pain in the right iliac region with a gurgling sound upon pressure, tympanitis is also present, also restlessness and insomnia,

Epistaxis, and yellow watery diarrhea, loss of appetite. occasional nausea and slight vomiting. after considering the forming stage, it would be propeate to consider the anatomical systems to which they are referable. they are the countenance or general aspect, the nervous system, the digestive system, the skin, the respiratory system, the circulation, and the urinary system.

Countenanc and General aspect. There is no very marked alteration of the countenance for the first few days, the face in the early period of the disease is usually more or less flushed, afterwards the countinance presents a dull or listless expression or an appearance of stupidity, In some rare cases there is circumscribed

redness of the cheeks but it is a sign of complication with pneumonia.
Nervous System. Pain in the head is more or less complained of during the first week, it is not always a prominent symptom and never has the intensity which belong to the pain in the first stage of acute Meningitis, it gradually become a subject of less and less complaint as the disease advances. Pain in the back is complained of in the early part of the disease but is rarely a prominent symptom, Delerium is manifested in some of the cases but not always, as a rule it is not manifested until the second week and later, but sometimes Patients have it in the begining of the disease when the Patient

takes to bed, Patients are sometimes perfectly coherent, but not rational in some Patients there is a state of typhomania, other symptoms referable to the nervous system, or atapic symptoms, denoting gravity of disease, are grasping at invisible objects or carphologia, pulling up of the bedclothes or fumbling with the body linen, visible twitching of the muscles of the face and of the extremities, and movements of the tendons of the wrist perceptible to the touch, the latter called subsultus tendinum

Digestive system. Anorexia is the rule, but to this rule there are exceptions, the appetite is sometimes preserved throughout the disease, Food

is sometimes acceptable when, owing to the mental condition it is not asked for. Thirst is usually a prominent symptom until perception becomes blunted, Drink although not asked for, is often taken with avidity when given. The tongue may be simply furred or frosted but is oftener covered with a coating more or less thick, which in different cases, is whitish yellowish or brownish, or even black. not infrequently the coating are thrown off once or repeatedly. and the surface is than usually reddened it sometimes becomes dry and hard, the tongue in some cases at an advanced period, is protruded with apparent

hesitation and difficulty, and when protuded, may not be withdrawn, apparently from forgetfulness. Dark or black matter, called sordes after the first week, is apt to collect upon the teeth and lips, especially in grave cases. hemorrhage from the gums is an occasional symptom, occurring in mild as well as in severe cases. redness of gums and bleeding on slight pressure are common. Diarrhea or looseness of the bowels exists in a large majority of cases and belongs among the diagnostic symptoms of the disease. Other abdominal symptoms are Meteorism or tympanitis tenderness or pain on pressure, and gurgling. the abdomen is always resonant from the presence of

intestinal gas. Frequently there is more or less distension and sometimes the tympanitic enlargement is great. Tenderness or pressure in the iliac region, especially on the right side is very rarely entirely absent. Perforation of the small or, in rare instances, the large intestine occurs in a certain proportion of cases it occurs late in the disease or during convalescence, and sometimes even after apparent recovery from fever.

Skin. Of the symptoms referable to the skin, the most important is characteristic eruption. The eruption consists of isolated papules, generally limited to the trunk, of a rose or pink color called by Louis,

lenticular rose colored spots, they are slightly elevated, and therefore are papular, the elevation is distinctly felt if the finger be slightly passed over them the redness momentarily disappears on light pressure. the number of papules is generally small, in the majority of cases not exceeding fifteen or twenty, and sometimes only four or five can be discovered, the papules continue to disappear and appear during the career of the disease. The eruption is not always present, it is often wanting. Perspiration more or less abundant, and recurring more or less frequently, is observed in about one half of the cases, it is most apt to occure at night.

as a rule, during the greater part of the career of the fever, the skin is hot and dry, Gangrena is apt to occur in situations exposed to pressure, the liability to bed sores on the nates, hips, and shoulders is to be borne in mind. this may be prevented by changing from time to time the position of the body.

Respiratory System, — Cough is not a prominant symptom, unless some unusual pulmonary complication exists but slight or moderate cough is almost invariably present, Pneumonitis is a not infrequent complication, this complication is rendered probable by prominence of cough and accelerated breathing. Epistaxis has been

mentioned as a symptom of diagnostic value in the forming stage, generally the hemorrhage is small, but occasionally it is profuse, and it may even require to be arrested by mechanical means.

Circulation and Temperature.

More or less acceleration of the pulse belong to the history of the disease, the acceleration varies considerable in different cases, and at different periods of the disease, in the same case. The danger is usually considerable if the pulse exceed 120 per minute, and the pulse may rise still higher, and on the other hand it may fall below the standered of health, it has been observed to fall as low as 60, 40, and still lower.

the frequency of the pulse may vary at different periods of the day.
More or less of increase of heat of the body is invariable. The rule is that during the greater part or the whole of the career of the disease the temperature is raised, is without any exceptions but, under certain circumstances, the heat may not exceed, and it may even fall below, the standard of health. in general the thermometer in the apilia shows a daily increase of the temperature for the first five or six days. at the end of this period the temperature at least rises to 1,03° Fahr and, during the progress of the disease, if the temperature show an increase much above

this, the prognosis is unfavorable.
During the progress of the disease
there is, as a rule, an oscillation of
temperature between morning and
evening a high elevation of temp-
erature in the morning, via 106°108°
indicates the approach of death,
there may be a sudden and cons-
derable fall of temperature other
symptoms not denoting convales-
cence or improvements, is unfa-
vorable. it may be the forerunner
of some grave symptom, this has
been observed to precid hemorrhage
from the bowles.

Urine.— The urine is usually scanty
and of high specific gravity until
the approach of convalescence, when

it becomes abundant and of a low specific gravity, during the progress of the disease, as a rule the urea + uric acid are absolutely increased, the coloring matter is also more abundant than in health, the presence of albumen during a portion of the febrile career is not very uncommon. Renal casts in the urine are sometimes observed, these denote disease of the kidneys, either existing prior to the fever, or developed as a complication. If with or without renal casts or albuminuria the urine be notably deficient in urea, uraemia is to be apprehended. the urine is sometimes retained in cases of typhoid fever, and owing to the blunted perception, the bladder may become greatly distended. Convalescence.—

it is difficult to find any circumstance which will answer equally well to denote the date of convalescence, the career of the fever rarely ends abruptly. the termination in convalescence, like the development is gradual, for in some the disease may belonger, developing ita self before taking to bed. and again in some the attack may be harder. Relapses of typhoid fever are sometimes observed, a return of the fever may take place after ten days or a fortnight from the date of convalescence, and the Patient pass through a second career. there may be many more complications associated with typhoid fever than what have been mentioned. death may be from inanition but in many cases nutrition becomes active after recovery. and the Patient attains,

to a greater weight than ever before, the mental powers in some cases are enfeebled for a considerable period.

Causation.— Typhoid Fever is not restricted within any geographical limits, it is endemic in every quarter of the globe, in certain of the so called malarious districts it is not observed, as distinct from remitting fever, but there is reason to believe that in these districts, it is obscured by being blended with periodical fever. as regards the seasons of the year it shows a decided predilection for the autumn. it is stated that a warm dry summer favors the occurrence of the disease in the following autumn. A decided predisposing influence pertains to age. young persons are chiefly liable to it, it occurs but rarely in

infancy it is not uncommon in child-
hood, a considerable proportion of the cases
of so-called infantile remitting fever are
cases of typhoid fever, it is rare after
fifty years of age, Both sexes appear
to be equally liable to the disease, no
causative influences relating to social
position, occupation, or habits of life have
been ascertained, with respect to the con-
tagenousness of the disease, it may be
communicated under certain circumstan-
ces is certain, and that it frequently or
generally originates spontaneously, that is
irrespective of contagion or infection, is per-
haps equally certain. This is one of the
diseases the special cause of which may
be generated without the body and rep-
roduced within the body, it is certain

that there is a virus in the intestinal discharges, and that it may be conveyed in the water drank. The belief is that the disease invariably proceeds from a special virus contained in the ejecta, and the prevalence of the disease by the dissemination of the virus in emanation from water closets, privies, and drains. As a rule it is not communicated to those who come into contact with private Patients, nor is it prophagized among hospital Patients. thus differing widely from typhus fever. and there has been some striking outbreaks of typhoid fever in localities in which it appeared to be fairly attributable to emanation from obstructed drains and cesspools, or from drinking water

tainted with sewage.

Diagnosis.— The points in the clinical history which are distinctive of typhoid fever are as follows, the gradual development, the absence of marked remissions, the abdominal symptoms, viz., diarrhoea with ochre colored dejections, tympanitis, tenderness in the iliac regions, and gurgling the occurrence of epistaxis and the characteristic eruption, as regards the eruption, a fact important to be borne in mind is that rose colored papules like those belonging to the history of typhoid fever, are sometimes found in other affections. other points to be taken into account are, the autumnal season, and the youth of the patient. the fore-

going points taken in connections with the absence of features distinctive of other fevers, generally render the discrimination easy, after a certain duration of the disease, the discrimination is not always easy, and some delay may be necessary in order to arrive at a positive diagnosis, the local affections with which typhoid fever is liable to be confounded are, meningitis, Bronchitis, Pneumonitis, acute tuberculosis, and enteritis, acute meningitis, as distinguished from typhoid fever, is characterized by more intense cephalalgia, by intolerance of light and sound, early and active delirium. there is generally constipation, the abdomen is not tympanitic but frequently depressed the iliac tenderness is

wanting, Subacute bronchitis is an element of typhoid fever. if the bronchitis be unusually prominent and the fever unusually mild, the latter may be overlooked and the disease considered a primary bronchitis this error can only happen in the early part of the fever, the duration and progressive increase of the disease, together with the characteristic events of the fever will lead to a correction of the diagnosis, Typhoid Fever may be confounded with pneumonitis, when the latter exists as a complication, The existence of pneumonitis is shown by its physical Signs. The differential diagnosis is to be based on facts which show the existence of the fever prior to the occurrence of the pneumonitis and on the events characteristic of typhoid fever, viz the abdominal

symptoms and erruption, cases of primary pneumonitis, in which the existence of typhoid fever may be suspected, are cases of so called typhoid pneumonitis, that is pneumonitis with phenomena denoting the typhoid state, viz. low delirium prostration, subsultus tendinum, &c, Acute Tuberculosis has not infrequently been mistaken for typhoid fever, the former is to be discriminated by notable frequency of respiration, the prominence of the cough, the occurence of haemoptysis in some cases, the abundance of subcrepitant rales, by marked lividity in some cases and by the absence of the abdominal and other characteristic events of typhoid fever, Typhoid Fever may be considered as primary enteritis when the abdominal,

Symptoms are unusually prominent from the beginning. The liability to this error is chiefly in children, events other than the abdominal symptoms belonging to the history of typhoid fever are to be sought after. There are cases of typhoid fever which may be overlooked in consequence of the febrile phenomena being imperfectly developed. These cases now termed to are called cases of latent typhoid fever or the term walking cases. The Patients do not take to the bed, and perhaps, they continue their usual avocations. They complain only of debility loss of appetite, and mild diarrhea. under these circumstances death sometimes take place from intestinal perforation profuse hemorrhage or some grave complications, and on post mortem examination, the characteristic typhoid lesions are found.

Prognosis. In the many statistics show considerable variations in the death rate, in different places and periods. The variation is often considerable at different seasons in the same place, and under similar circumstances as regards surroundings and treatment. There is a greater mortality in the cold than in the warm months and infirm persons are more likely to succumb than those of fair constitution. A fatal result is rarely due to the intensity of the disease, death, generally, is attributable to complication or accidents, such as pneumonia, peritonitis, and occasionally hemorrhage, pre-existing disease may lead to a fatal result, for example, chronic disease of the kidneys, unusual severity of the abdominal lesions is sometimes the cause of death, coma, probably uraemic in most cases,

and convulsions render the prognosis extremely unfavorable. Other marked atapic symptoms, such as carphologia, subsultus, etc are ominous. cases characterized by active persistence delirium usually end fatally. The prognosis is unfavorable whenever the pulse becomes extremely frequent and feeble. Great prostration is evidence of great danger. In cases of pregnancy, abortion generally takes place, and death follows. Intestinal hemorrhage is less serious than has been supposed. Recovery takes place in the majority of cases, in which this event occurs. Death may be caused by gangrene or bed sores in parts exposed to continual pressure from the weight of the body, a considerable and sudden fall of the temperature below the minimum of health is extremely

ominous. a favorable prognosis may be entertained so long as ataxic symptoms are not marked and the asthenia not great the pulse not very frequent or feeble, and there are no serious complications but, under these circumstances, the prognosis should always be guarded in view of the liability at any period of the disease to serious complications or accidents, and it is to be borne in mind that sudden coma and perforation of intestine are not less liable to occur in mild than in severe cases. The liability to perforation during convalescence is to be recollected, on the other hand recovery may be hoped for in cases in which the symptoms denote the utmost gravity.

Treatment. — There are three important points belonging to the treatment of

typhoid fever, viz. Hygienic Dietetic, and Medical. The first and most important is hygiene, plenty of fresh air, the sick room well ventilated, cleanliness, and regulation of temperature which should not be allowed to rise above 60° Fahr, changing frequently the position of the body is very important, the evacuations should always be instantly removed. When practicable it is advisable that the bed and body linen should be changed daily. Alimentation, It is desirable for the Patient to take as much nutritious food as will be digested and assimilated, in nutrition in cases of fever, as of other affections, enhances and adds to the morbid phenomena belonging to the disease. In the early part of

the disease there is generally repugnance of food, and afterward, owing to the mental state and the condition of the mouth, taste and appetite are wanting. Under the latter circumstances food is to be given although not desired by the Patient, and even when he is disinclined to take it. The indifference to food may proceed, measurably, from an unwillingness to make any exertion. The supporting diet should be in a liquid form, and embracing the necessary variety of alimentary principles. The animal broths or essences, eggs and milk, with the addition of some farinaceous form of food, fulfil these requirements. Different articles should be given in alternate and regular intervals, the intervals should be from two to

four hours not any of them, and
not too much an amount at a time.
for giving it in too large amount
might cause the Patient to vomit,
and make matters worse. And if the
Patient desire or has a choice for parti-
cular kind of food, it should be given
as far as practicable, Medical treatment
the first is to the condition of the
Patient, as regards the temperature
by giving the body with cold or
tepid water, as accessory to the use
of cold water. There are certain remedies
which are useful by diminishing
the temperature of the body, namely
Quinine Digitalis and veratrum viride,
The two latter diminish at the same
time, the frequency of the hearts
action, and, of the two, the veratrum
viride has especially this effect, Quinine

given as an antipyretic should be given in large doses 10 to 25 grains at a dose so as to get the full effects of the Quinine at once Calomel is of value in the treatment of typhoid fever but must be given in such doses as will not bring on Ptyalism. If there is costiveness give a mild cathartic, such as Castor Oil. Give Dovers Powder at night in doses of from five to ten grains. When there is restlessness the Bromids are of value especially the Bromide Potash, Terebene has a curative effect and is called for when there is a dry tongue, and the abdominal distentions are marked. When there is much delirium give Opii in full dose, if it does good keep it up, but if it increases the delirium withdraw the drug. Give cool drinks such

as ice water or lemonade, in moderate quantities not so as to convode the stomach, apply ice to the head when there is much cephalalgia. The supporting measures, give stimulations as Wine, Brandy, Egg nog, Wine Whey. The diarrhea may require to be restrained, for this give Opiate and Astringents either by the mouth or rectum. Mere looseness of the evacuations without undue frequency does not call for treatment. During convalescence, alcoholic stimulants should always be given moderately, frequently. Malt liquors or light wine are best suited to convalescence, Solid food should be allowed as soon as convalescence is declared, the diet should be of plain, and wholsome well cooked

The complications will be treated

as they occur.

Thesis on.
"Diphtheria,"
by
Jno. T. LeCato
University of Maryland.
Session 1883-84.

Diphtheria.

Definition:

Diphtheria is an epidemic, sometimes contagious disorder, of which the most characteristic phenomena consist in the formation of whitish membranous pellicles on certain mucous surfaces, more especially those of the fauces, nares, larynx and trachea, and on excoriated or wounded areas of the skin; the rapid development of anaemia and extreme debility. The intervention during

or after a parent convalescence of temporary paralyses.

History:

Diphtheria has only been known by its present name since the year 1826, when it was so designated by Bretonneau from the Greek word διφθερα, a skin. Although this is the first we see of the disease under its present name, yet we recognize the same disease from the description of many of the other wind for many centuries back. Aretaeus describes it as a

disease of Egypt also Macrobius and Collins Aurelianus among the Romans. Hecker mentions it as occuring in Holland in the year 1837; Carnivale at Naples 1620; Tamayo, at Madrid, 1622; Ghisi, at Cremona, 1740, Chomel saw it in France in 1743-9; Fothergill, in England, 1754; in this country Douglas of Boston in 1736; and Samuel Bard of New York in 1771. Hence we see that it is a disease of all countries and nations as it is of all times and seasons. It is generally seen in the epidemic form rarely in the sporadic. It affects both

ren and adults, but is far more fatal to the former. We hear very little of Diphtheria in this country before the year 1858, at which time it seems to have been imported from France, which if true, is an an argument in favor of its contagiousness. That it sometimes and often is imparted from one person to another is an undeniable fact but the simultaneous outbreak of this disease over a large area of country can not be explained this way, and can only be accounted for by recognizing its Epidemic nature. Bretonneau supposed Washington

and the Empress Josephine to have died of Diphtheria. Stephanie, the beautiful queen of Portugal, and Princess Alice of Hesse were also among its distinguished victims.

Causation:

Since Diphtheria is a communicable disease it must be produced by some specific poison, the exact nature of which is not known. The medical opinion of the day strongly favor the bacterian origin of this disease, as of almost all other diseases. In fact, bacteria seem to hold the exalted position of the scape-

goat of medicine which en-
viable position was formerly
almost exclusively accorded
to the liver, I will say some-
thing more on this subject
when we come to speak of the
exudation. Writers who favor
the contagious origin of the
disease solely, try to prove by
statistics, that the most
common cause of diphtheria
is contact with something
derived from a previous
case of the disease; this
is probably true of the
isolated cases, but not true
in the general Epidemic
form of the disease. The
sanitary condition of houses
or localities and the condition

of health of those who are exposed has much to do with its development, but in our present state of knowledge we have to confess that little or nothing is known of the true cause of the disease. It occurs during the course of measles, Small Pox, Typhus, Puerperal fever, Scarlatina ect, and it seems that these low fevers especially favor its development.

Morbid Anatomy and Pathology:

The morbid anatomy of diphtheria is almost limited to the circumscribed inflamations found on the

fauces and adjacent parts
The affected parts are
first by peraemic and [illegible]
then they become infiltrated
with Leucocytes and other
inflamatory material, and
when the inflamation ex-
tends more deeply, extrav-
asations of blood occur ter-
minating in distinct abscesses.
The inflamed surface se-
cretes a thin mucus, and
soon a delicate pearly white
pellicle forms in situ.
This thickens by additions
to its under surface and
edges. This membrane is at-
tached to the subjacent mucous
membrane by general adhesions
or prolongations extending

into the mucous follicles. Many low vegetable organisms such as micrococci, bacteria and the like have been detected in the exudation of diphtheria, and have been thought by many to be pathognomonic. Among the chief supporters of this theory are Ortel, Litzerich Talmon and others, who assert that they have found a special form of "micro-beast" which, in their judgement is causative or pathogenic of the disease. But I thing this question is yet sub-judice, for other competent observers have failed to find "diphtheritic

bacteria in well marked cases of the disease have succeeded in finding them in cases that were not diphtheritic. This fact seems to me to be sufficient proof that the disease is not caused by the low organism. That bacteria and the like are found in diphtheria as in many other diseases I do not question, but that they are primarily present, or that they are in any way necessary to the production or development of diphtheria I think highly improbable. It is my opinion that the diphtheritic exudation is

forms a suitable nidus for these bacteria, micro-cocci or what not to multiply and grow in.
Some changes take place in different parts and organs of the body. The lymphatics of the neck are enlarged and tender. The changes which occur in the lung in bad cases is probably due to mechanical obstruction to the bronchi except when the lung tissue itself is involved. The most important changes occur in the kidneys. In severe cases they are swollen, intensely hyperaemic or they may be enlarged

and pale. and on microscopic examination may present fatty or granular or fatty deposits in the renal tubules with hyaline castes. In all cases changes occur in the malpighian tufts and tubules. The tufts are hyperaemic and filled with micrococci, the epithelium of the tubules is cloudy granular and thickened, and is often detached in the form of castes. The brain is said to be hyperaemic; Changes occur in the spinal nerve roots and are interesting from the fact that they may possibly explain the [illegible]

paralyses that occur as concomitant symptoms and sequellae of the disease. They are thickened, with extravasations of blood occurring in their sheaths, and they are also filled with lymph cells and nuclei. The blood is said to be modified in character but certainly not always.

Symptoms and Progress:

Diphtheria may be either simple, Croupous or malignant. The period of incubation is not accurately known. As a general rule the symptoms that usher

in an attack with [illegible]
its violence.
In the simple form the
patient complains of general
malaise and slight sore throat.
On examination the lymphat-
ic glands behind the jaw
will be found enlarged and
somewhat tender, looking in
the mouth the tonsils are
seen red and swollen,
the mucous membrane of
the palate and fauces red
and oedematous. There is
generally slight fever with
furred tongue constipated
bowels ect. Then from one
to three days after there
is formed a deposit of false
membrane of a white or

slightly yellowish color on one or both tonsils and also in other parts of the throat. These symptoms will continue about the same, if no complications arise, until about the ninth or tenth day when the false-membrane will begin to peal off and convalescence follow. The Croupous variety while it is not as fatal per se perhaps as the malignant, yet it has killed more persons, especially children, than any other form of the disease. About the same general symptoms may usher in this form as the simple, or there may be greater febrile

disturbance from the [illegible].
An increase of discomfort in the throat is complained of, then an abundant leathery exudation makes its appearance on the tonsils, which are very much swollen, this tends rapidly to spread and thicken, and soon covers the palate, fauces, uvula etc.
Pronounced debility occurs quite early in the attack, in fact, more or less debility is a characteristic of all the forms of Diphtheria and furnishes an important indication for treatment.
Soon the membrane extends into the larynx, which will be recognized by the voice

becoming hoarse and husky, then reduced to a whisper; and by the characteristic croupous cough with difficulty of breathing.
This constitutes the so called Laryngeal Diphtheria except when the larynx alone is affected as is sometimes the case. It is only in this variety that Diphtheria is and can be confounded with Croup for it is only when Diphtheria assumes this latter form that it presents any of the characteristic symptoms of Croup at all.
As I am a non-believer in their identity it may be

well just here to point out some of the principal points of difference between the two diseases.

Diphtheria is an infectious disease while croup is not. Diphtheria attacks irrespective of age, Croup is confined to children. Diphtheria is markedly asthenic, croup generally sthenic; Albumen often present in the urine of a diphtheritic patient, none seen in uncomplicated Croup. Croup occupies the larynx exclusively while the pharynx is the usual seat of diphtheric exudation. Diphtheria is preeminently a constitutional affection. Croup, on the

other hand, is purely a local one. In Croup the exudation is on and does not extend into the follicles of the mucous membrane as it generally does in Diphtheria and finally the absorption of septic material and systemic poisoning never results from Croup.

In this croupous form the false membrane will continue to extend downward into the trachea and bronchi and the breathing will continue to become quicker and more labored until the patient dies from asphyxia or, on the other hand, heart paralysis may end the [illegible]

this takes place.
In nearly all the bad forms of Diphtheria we have a peculiarity about the pulse which may be called the "dicrotous pulse" for want of a better term to express it.
In the malignant form of the disease all the symptoms are increased in severity and intensified from the beginning of the attack. A distinct "Chill or Rigor" will generally usher in the attack, followed by intense headache, very soon a yellow, brown or almost black "false membrane" covers the mucous membrane of nearly the whole throat. This tends to spread rapidly, up-

[illegible] into the nares which give forth a fetid odor and produce an ichorous, acrid discharge which excoriates the upper lip as it runs over it; downwards into the larynx and trachea to the bronchi and lungs and sometimes into the oesophagus and stomach. The neck and throat are enormously swollen, the neighboring glands enlarged and swollen. In the meanwhile extreme debility has set in, the pulse is thready and dicrotous in character and finally death supervenes from the gradual or sudden cessation of the hearts action if this end hasn't been accomplished

by asphyxia.

Special Symptoms and Complications.

Albuminuria is present in most of the severe cases. Paralysis of the palate muscles is common as a concomitant symptom. The "false membrane" of diphtheria often makes its appearance on any denuded surface of the skin. I have had a remarkable instance of this in the person of a little girl who had a very extensive burn leaving a large raw surface, both after this was attacked with diphtheria and the whole denuded surface of the burn was covered by

false membrane, there is a peculiar fetid odor emanating from Diphtheria patients which, though scarcely ever mentioned by the books is almost pathognomonic; at least a physician accustomed to Diphtheria can very often diagnose it as soon as he enters the room by its odor alone.

Sequellae:

Anaemia and general debility are apt to persist sometime after convalescence has been established, Death by syncope has taken place from this cause. Numerous paralyses affecting

the voluntary and involuntary muscles are often observed as sequellae of the disease. It affects both the motor and sensory nerves. The paralyses occurring as concomitant symptoms generally affect the muscles of deglutition. There is at first some difficulty in swallowing and then a regurgitation of fluid through the nose, followed by a complete inability to swallow. When this complication occurs we notice that the heart's force is considerably reduced by interference with its motor apparatus. The paralyses following diphtheria are temporary and functional i.e. they do not depend upon any appreciable lesion.

Treatment:

The treatment of Diphtheria has long been a quaestio vexata. This is due in part, & think, to the general gravity of the disease, and in part to the different views of the profession as regards its nature, origin and seat.
For instance those believing in the local nature of the disease have directed all their remedies to the local manifestations of the disease and have only instituted constitutional measures incidentally. On the other hand, those

[illegible] that Diphtheria is primarily and wholly a constitutional disorder have directed their remedies accordingly and have almost ignored its local manifestations. As for myself I am not willing to adhere to either of these extremes; although I believe as I have said before Diphtheria to be purely constitutional in its nature origin and course. In my limited observations on this subject I have noted one thing that in proportion as Diphtheria has been recognized and believed by the

Profession to be a constitutional disease just in that proportion has its mortality decreased and vice versa. It would be totally out of place in a paper of this kind for me to attempt to give a list of the remedies that have been proposed for the treat of this disease, for it seems to me they are scare equaled by the articles in the Materia Medica itself. So I will be content in mentioning a few drugs and mapping out a line of treatment which I have known to be almost universally effectual in

the cure of this dread disease.
First we will take the constitutional treatment, as it is of prime importance. When called to a case early before the disease has fully established itself, & would commence the treatment by a mercurial purge, say gr x of Calomel if the bowels were ~~cos~~ costive, if not, or if the case promised to be one of unusual gravity & would not wait for the slow action of the mercurial, but institute the following treatment immediately viz, & would put the patient on 8 gr

doses of Quinia to be alternated every two hours with 15 grs Chlor. Potas, and 15 drops Tr Chlor. Ferri in combination. Furthermore if the disease seemed to be decidedly of an asthenic type, I would order a sufficient quantity of the best whiskey with such nourishment as the patient could take in the intervals. This stimulation and light nutritious food I regard as of the greatest importance, as the disease is so debilitating in its nature. I think a little Bichloride Mercury might

be added to the above
with good results.
Locally I would do nothing
unless it were called for
either from the false
membrane encroaching
upon the air passages
and impeding respiration,
or from it taking on mor-
bid processes which might
lead to sepsis &c.
Then I would order the
following to be used in
the spray or steam at-
omizer. ℞ Lime water ℥i
Carbolic acid grs iii, or
Lime water ℥i, ss, Lactic acid
ʒi. Either of these may be
used every hour, provi-
ded the necessities of the

case demand it. But
above all things sus-
tain your patient in
every possible way.
With this brief outline
& bring this crude and
imperfect thesis to a
close, fully recognizing
its many errors and
imperfections & respect-
fully submit it to my
superiors, hoping that
they will be, at least
lenient in their criticism,
remembering it is the first
attempt of a young man

Very Respectfully,
Jno. T. LeCato.

[illegible]

[illegible] Specific [illegible] contagious
fever caused by malaria and charac-
terized by complete intermissions, be-
tween the paroxysms.
Varieties. The varieties are quotidian,
when the paroxysms occur daily,
tertian when every other day; quartan
when on the first and fourth also
quintan, sextan, septan and oc-
tan, and besides these we have
a double quotidian where we have
two paroxysms in one day and a
double tertian where we have two
paroxysms in two days the alter-
nate paroxysms corresponding in
time and character. [illegible] dual

distinct stages, viz. The cold, the hot and the sweating stage. These different stages [illegible] length and completeness of development in each case. The fever is generally of an active type, suffused surface, high [illegible] and general pains. In common [illegible] all well marked, A chill gen[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the cold stage, which commences

The cold stage is frequent, [illegible]
[illegible] the [illegible]
[illegible]
[illegible]
organs in the first stage as
there is less blood in the vessels of the surface and the
whole amount of blood is not
diminished
The hot stage is [illegible], [illegible]
more or less intense pyrexia. It
usually comes on by warmth grad-
ually succeeding as the shivering
[illegible]
[illegible]
[illegible]
[illegible] of the body since [illegible]

the afternoon. Generally speak-
ing the paroxysm occurs about
the same hour each day, but
[illegible]
successive one occurs earlier than
the [illegible] preceding [illegible]
said to be anticipating. They
are retarding when each succes-
sive paroxysm is delayed. The
anticipating is generally a bad
indication while the retarding
is a good one. During the
intermission [illegible] patient com-
plains of nothing, except a cer-
tain amount of weakness, the
appetite is good and there is
[illegible]

[illegible] to the characteristic facies. We sometimes have general dropsy at the disease but more often as a sequel. We often have an herp[illegible] eruption about the mouth also [illegible] with or just after the disease. The duration of the disease [illegible] the paroxysms is variable. It [illegible] frequently end spontaneously in a few days but it [illegible] generally continues indefinitely if not arrested by treatment. There is a great liability to recurrence, in some cases successive attacks occur regularly after a certain period. It may exist in combina

tion with various other diseases making it very irregular and interfering with the paroxysm. In malarial districts the malarial influence is apt to pervade all affections and therefore demand special attention. Paroxysms of neuralgia seem at times to take the place of the [illegible] the [illegible] with the same regularity as [illegible] of the regular [illegible] in this case a cure is made by remedies used in intermittent fever.

Causation. This is a morbid agent known as malaria. The existence of this is infered from

But after cultivation of the soil for several years it will after disappear. Thus a [illegible] come a non-malarious district. It is believed to [illegible] near the ground and persons sleeping up stairs may escape while those [illegible] stairs will contract the fever from its influence. It is more [illegible] [illegible] [illegible] [illegible] day; and thus the disease may be avoided by [illegible] being exposed to the night air. This fever is not atall communicable from one person to another but is purely miasmatic. Salisbury claimed to have demonstra

ted the special cause of it to be a species of plant; but other observers have not confirmed these conclusions and further facts are needed before it is established that a particular vegetable organism is the cause. The period of incubation is variable, may only be a few days or weeks but may be prolonged to months and [illegible] years. An attack is likely to appear after exposure to cold or over exertion. Attacks occur more frequently in the spring and autumn. There is no [illegible] for [illegible]. An attack is sometimes brought out by going from [illegible]

to a nonmalarial region. I had them brought out on myself once in this way. I was raised in a malarial district but had my few chills until I went away to school to a town at the foot of the mountains, where chills were unknown to the residents. After about [illegible] weeks I began to have chills the tertian variety, and continued to have them until I left the place [illegible] months afterwards and returned to my home.

Diagnosis. This is [illegible] say. Febrile paroxysms [illegible] those of intermittent fever are

[illegible] with [illegible] [illegible]
[illegible] occur in the afternoon
[illegible] [illegible] [illegible] [illegible]
[illegible] apt to come on in the
[illegible] If a disease is not
[illegible] fitted by antimalarials [illegible]
may infer that it is not in-
termittent.

Prognosis: Simple intermittent
is not dangerous in itself.
but should be arrested as
soon as possible to prevent its
running into the pernicious
or inducing anaemia, general
[illegible], and the malarial cachexia
Some have claimed that it exerts
a protective influence against

[illegible] but there is reason to suppose that it rather promotes the [illegible] in those predisposed to it.

Treatment. We first have to consider the paroxysm and then the treatment during intermissions. We should do all we can to relieve the stage in which we find the patient. During the cold stage we [illegible] apply warmth to the body by means of warm bottles, warm baths & by keeping patient well covered up. The [illegible] during the hot stage [illegible] body with cold water or water and whiskey, keep the

air moderately cool and give
diluents. During sweating stage
[illegible] anything to [illegible]
it, but try to promote it as
[illegible] as possible. [illegible]
[illegible] tant treatment comes
during the [illegible]
[illegible] the great [illegible]
[illegible]
[illegible] the recurrence of the per
[illegible] in the great majori
ty of cases. It [illegible] best
to arrest the disease as soon as
possible as its morbid effects
are [illegible] in proportion as it is
quickly arrested. It is always
[illegible] to begin [illegible] treatment

real In such cases we must [illegible] all doses, and gen- [illegible] small do- [illegible] and if there is still [illegible] is the [illegible] ty having been taken, but this [illegible] a slight degree. The hypodermic [illegible] ally where the remedy is not retain- ed in the stomach. After the par- [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] chona, arsenic, salacin, eu-
[illegible] chloroform, the
sulphites, carbonate of ammonia
and tincture of Iodine all seem
to [illegible] alarial [illegible]
[illegible] to be second best to the salts of
quinia. Eucalyptus has some value
but [illegible] where [illegible]
begun to reconstruct the [illegible]
to the organs of assimilation caused
by the [illegible] alarial infection. It is